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Department of
Agriculture

Forest Service

Wildlife and
Fisheries Staff

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Challenge Cost-Share Program Report for 1990

Partnerships in Wildlife and Fisheries Management

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Executive Summary

Fiscal year 1990 proved to be an extremely successful year for the Challenge Cost-Share Program. The Forest Service and its partners were able to turn \$9.9 million of Federal funding into more than \$22.3 million worth of completed habitat improvement projects. Our partners included thousands of people from hundreds of groups, organizations, and agencies who helped improve conditions for fish, wildlife, and threatened, endangered, and sensitive species on the forests and grasslands of the National Forest System.

As the program expands, the amount of habitat improved continues to exceed the improvements of the previous year. In 1990, the Forest Service and its partners completed 15,031 habitat improvement structures compared with 5,028 the previous year. They completed 466,310 acres of non-structural habitat improvement, an increase of 334,650 acres over the 131,660 acres of habitat enhanced in 1989. In addition, combined efforts completed 1,221 inventories, reports, and surveys for wildlife, fish and threatened, endangered, and sensitive species, habitats and populations in 1990.

The number of partners continues to grow, almost doubling each year. In 1989, partnerships totalled 867, increasing to 1,707 in 1990. When the program began in 1986, only 57 partners participated. It is exciting to see the program attract more partners each year.

The partners involved in Challenge Cost-Share projects on National Forest System lands are varied; they range from local affiliates of national conservation organizations, to civic groups, corporations, scout troops, government agencies on all levels, as well as individual citizens. All partners have shared in the fun, and at the same time have helped provide high-quality recreational opportunities for the enjoyment of wildlife and fish in the national forests and grasslands by all who visit.

Background

Congress initiated the Challenge Cost-Share Program in 1986 at the urging of citizens and conservation leaders. Congressional funding of Forest Service Challenge Cost-Share projects is contingent upon receipt of matching contributions from conservation groups, private enterprises, individuals, or other public agencies.

The program is designed to encourage direct public involvement in managing wildlife and fish habitats on the national forests and grasslands. The Forest Service, in partnership with the Wildlife Management Institute, developed the "Join Us" campaign to invite individuals, organizations, and agencies to become partners with us in sharing the costs of wildlife and fisheries management.

Fiscal year 1990 was our fifth year of sharing habitat improvement opportunities, and our best year yet. The results have exceeded our highest expectations. Levels of interest and participation increased considerably (see Tables 1 and 2 in Appendix A, Figs. 1 and 2 in Appendix C).

Program Goal

The goal of the Challenge Cost-Share Program is to maintain and enhance the fish, wildlife, and endangered species resources of the National Forest System through active partnerships between the Forest Service and conservation and service organizations, other government agencies (Federal, State, and local), private groups, and individuals.

In addition to improving habitats and our knowledge of wildlife and fish, the Challenge Cost-Share Program strengthens partnerships between Forest Service managers and other people who care about national forest resources. The partnership approach to getting work done is expanding our ability to restore, maintain, and enhance habitats for many values and uses. The Challenge Cost-Share Program is a wonderful example of the Forest Service mission in action: *Caring for the Land and Serving People*.

Accomplishments in 1990

We had 1,707 partners for Challenge Cost-Share Program habitat projects in 1990. Their combined contribution of labor, materials, equipment, cash, and expertise exceeded \$12.3 million, more than matching the total Forest Service monetary contribution of \$9.9 million. Combined contributions to the Challenge Cost-Share Program for FY1990 totaled \$22.3 million (See Table 1 in Appendix A, Figure 1 in Appendix C).

The Forest Service wildlife and fisheries program spent more than \$9.9 million of appropriated funds for habitat management in four areas: wildlife; inland fisheries; salmon and steelhead; and threatened, endangered, and sensitive species (See Table 3 in Appendix A, Figure 3 in Appendix C).

The Forest Service has developed several major program themes as part of its increased emphasis on wildlife and fisheries. "Rise to the Future," the fisheries program, was developed in 1987 to increase emphasis on fisheries management on national forests. "Get Wild," the wildlife program, was started in 1988 to emphasize and balance consumptive and nonconsumptive uses of wildlife.

The "Get Wild" program currently covers eight emphasis areas:

- "Taking Wing" for waterfowl habitat management
- "Elk Country" for elk habitat management
- "Making Tracks" for wild turkey habitat management
- "Answer the Call" for quail habitat management
- "Full Curl" for bighorn sheep habitat management
- "Dancers in the Forest" for grouse and woodcock habitat management
- "Eyes on Wildlife" to emphasize recreational and educational nonconsumptive wildlife activities
- "Animal Inn" to provide public information and education about the value of snags and downed logs as wildlife habitat

A new theme developed in 1990 for the threatened, endangered, and sensitive species program is "Every Species Counts." Endangered species continue to garner major public attention. Partnership in activities play a major beneficial role: during 1990, 399 different partners in this program contributed more than \$2 million toward 367 projects, including many habitat improvement and restoration projects, surveys, structure construction, monitoring, data management, training, and development of conservation strategies for a wide variety of plant and animal species. Cooperative efforts are vital to benefit, and thereby prevent federal listing of the nearly 2,000 sensitive species designated on National Forest lands.

These themes and emphasis areas have helped increase the interest and participation of individuals and groups in projects for specific wildlife and fish species as part of the Challenge Cost-Share Program. The names of participating groups are listed in Appendix B.

Thousands of individuals helped the Forest Service improve habitat for hundreds of fish, wildlife, and threatened, endangered, and sensitive species on more than 466,000 acres of public lands. Some project examples in the Regional Project Highlights section of this report include reintroduction of bighorn sheep and the improvement of their habitat, introduction of sterile amurs to reduce vegetation levels in a lake, placing dams for steelhead and salmon passage, planting trees and shrubs along streambanks for fish cover and bank stabilization, enhancement of water and forage conditions for the Gould's Turkey, and survey work to determine distribution and management needs of the Beck biscuitroot and the Kachina daisy.

Cooperators completed more than 15,000 structural improvements to enhance habitat productivity for featured species of plants, fish, and wildlife and to improve recreational opportunities for wildlife viewers, hunters, and anglers. Examples include fences for sheep crossings, passageways for salmon and steelhead, placement of structures in lakes for habitat improvement, access for physically challenged anglers, and viewing guides and trails for wildlife interpretation.

The National Forest system is divided into nine regional areas (Fig. 1). Each region is responsible for overseeing wildlife and fisheries management and habitat improvement work on national forests within its boundaries. In the regional project highlight section, selected projects from each region are described. For regional summaries of partnership contributions, acres of habitat improved by program area, and number of structures built, see Tables 4-6 (Appendix A) and Fig. 4 (Appendix C).

Possibilities for Growth

Public interest and involvement in the Challenge Cost-Share Program continues to increase. Each year more and more people are discovering they can do something to improve fish and wildlife habitat in their national forest. Based on 1986 - 1989 trends in public interest and involvement in each Forest Service region, the possibility of continuing participant growth is unlimited.

Already, the national forests and grasslands provide the greatest number and variety of outdoor recreation opportunities of any Federal lands and waters. Many of those opportunities are based directly on the diversity and productivity of the fish and wildlife resource. Demand for recreation continues to grow. Fortunately, there are many opportunities for increasing habitat productivity, but they require an investment of money, time, expertise, and labor. That is why partnerships are so important - they help us fulfill the potential of our national forests, conserving basic resources and meeting the growing recreational needs of our society.

The potential for partnerships is great. There are 191 million acres of fish and wildlife habitat in the National Forest System. Three-quarters of the population of big game animals in the West live within the national forests and grasslands for part or all of the year. There are 2.2 million acres of lakes, ponds, and reservoirs and 129,000 miles of fishable streams and rivers within the national forests and grasslands, which provide half of all habitat for trout and salmon in the United States. Habitats for one-third of all the threatened or endangered species in America are on the national forests and grasslands. The potential for further improvement is limited only by our imaginations, and those of our partners.

What kind of investment is needed? We find a use for just about anything partners have to offer. Some projects need cash to contract for design work or to purchase materials or equipment time. For other projects, the partners provide the materials and labor and the Forest Service designs the project. Each partner has something unique to offer.

The Challenge Cost-Share Program is unleashing the creativity and imagination of people who care about their national forest and grassland resources. "The Join Us" invitation is something we are proud to extend to any and all who are interested in the future of wildlife and fisheries management. Please join us in creating a better future for our wildlife and fish resources of tomorrow.



Figure 1. The nine regions of the National Forest System.

Regional Project Highlights

This portion of the report contains excerpts from regional projects. These highlighted projects are only a few of the many submitted by each region. The cross section of projects representing the different wildlife, fish, and threatened, endangered, and sensitive species initiatives, as well as different forests, demonstrate the variety and diversity of the Challenge Cost-Share Program.

Northern Region

The Northern Region participated in 112 projects with 174 partners in FY 1990. The region contributed \$543,000 in funding, and the partners \$787,000. Total project accomplishments included 19,530 acres treated, 930 structures built, and 78 inventories, reports, and surveys completed.



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Clearwater National Forest. The Walton Creek fisheries habitat improvement project, a cooperative effort with the Idaho Department of Fish and Game (IDFG), consisted of improving fish passage in Walton Creek to enhance the passage of steelhead and salmon into the adult holding facility of the Powell satellite hatchery. This hatchery is part of the Lower Snake River Compensation Program for the Columbia Basin designed to restore salmon and steelhead to the Upper Snake River Subbasins. The Powell Ranger District constructed a total of eight log and boulder weirs (dams) in lower Walton Creek to facilitate fish migration into the facility. This "Rise to the Future" project was funded with \$2,500 from IDFG and \$5,500 from the Forest.



r NF: Forest Service biological
cutting a notch in a log weir at
creek facility.



Gallatin and Beaverhead NF's: A marten with a mouthful.

Gallatin and Beaverhead National Forests. The Montana Department of Fish, Wildlife, and Parks (MDFWP) and Furbearers Unlimited cooperated in a marten survey. This multi-year project, designed to increase knowledge of marten populations in southwest Montana, was part of the "Every Species Counts" emphasis for threatened, endangered, and sensitive species. This project plans to determine population levels of marten in the area and determine how trapping may affect their population. This was the first year of a four-year project. Participants completed surveys on the Hebgen Lake Ranger District of the Gallatin National Forest and on the Wise River Ranger District of the Beaverhead National Forest. The Gallatin and Beaverhead National Forests both contributed \$15,000, the MDFWP contributed \$15,000, and Furbearers Unlimited contributed \$2,000.

Kootenai National Forest. The Ten Lakes special fishing access project, located on the Fortine Ranger District, involved the Tobacco Valley Rod and Gun Club, Kootenai Fly Fishers, Trout Unlimited, Flathead Wildlife, Ten Lakes Snowmobile Club, Fortine Home Extension Club, Eureka Lions Club, First Baptist Church of Eureka, Back Country Horsemen, Holy Cross Lutheran Church of Eureka, DREAM, and the Architects Design Group. This "Rise to the Future" project provided special fishing access to Little Therriault Lake, Weasel Lake, and the Wigwam River and improved fish habitat at both Little Therriault Lake and the Wigwam River. Habitat improvements benefited westslope cutthroat trout. Cooperators installed overnight facilities designed to accommodate persons with disabilities at Little Therriault Lake. Work included the construction of parking sites, trails, fishing piers, restroom facilities, and picnic tables.

The Forest Service contributed \$11,100 in wildlife and fisheries Challenge Cost-Share (CCS) funds and \$4,000 in recreation CCS funds. Partners for this project contributed a total of \$5,625.

Lewis and Clark National Forest. The Boy Scouts of Choteau, MT, as part of an Eagle Scout Project, cooperated with the Rocky Mountain Ranger District in conducting a small mammal survey in old growth forest. The scouts set and monitored small mammal traps to measure the diversity and abundance of deer mice and red back voles. The information gathered from this project will be used to further delineate management indicator species in old growth forests. The Choteau Boy Scouts and Forest Service each contributed \$1,000 to this "Get Wild" project.



Kootenai NF: Forest Service biologist discusses plans for the Ten Lakes special fishing access project with partners.



Rocky Mountain Region
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Rocky Mountain Region

The Rocky Mountain Region participated in 179 projects with 126 partners in FY 1990. The region contributed \$872,548 in funding and partners contributed \$733,660. Total project accomplishments included 9,607 acres treated, 770 structures built, and 52 inventories, reports, and surveys completed.

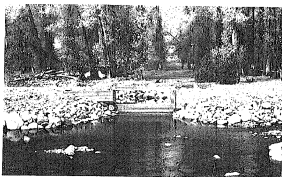
Black Hills National Forest. The Bearlodge Ranger District conducted a cooperative "Rise to the Future" project at Cook Lake. This lake is a popular local fishery and campground area, recently improved to allow anglers with disabilities better access to the lake shoreline and to campground facilities. Cooperative surveys conducted with the Wyoming Game and Fish Department determined that excessive aquatic vegetation was interfering with sport fishing and the achievement of desired habitat for the lake's trout population. As an alternative to the use of chemical herbicides, the State introduced sterile white amurs into the lake to forage on excessive vegetation. These sterile fish should reduce the level of aquatic vegetation by approximately 75 percent, but not beyond the levels needed to sustain suitable habitat for insect communities and spawning habitat for fish. Reduced vegetation levels will also enhance the fishing experience at the lake for Forest visitors. The WY Game and Fish Department acquired and delivered 500 white amurs for stocking in the lake. State and Forest Service personnel will conduct follow-up monitoring and activities to increase public awareness on the identification and value of these new fish. The Forest Service contributed \$1,600 toward the project and the State contributed \$3,200.

Medicine Bow National Forest. The Forest contracted with Habitech, Inc., Laramie, WY, to develop a design document for the rehabilitation and improvement of a four-mile reach of Battle Creek on the Hyden Ranger District. The stream had limited trout spawning and rearing habitat. Habitech identified 57 treatment sites to improve stream and riparian habitats. Projects included bank stabilization, boulder placement, constrictors, log weirs, deflectors, tree funnels, and water spreading structures. The Forest built four water spreading structures, which activated nearly a mile of side channels within the floodplain. The remaining work is scheduled for 1992. Fish species that will benefit include rainbow, brook, and brown trout, mountain whitefish, and nongame fish. The project will increase opportunities for beaver by improving riparian plant communities.

Partners in this "Rise to the Future" project included the University of Wyoming Department of Range Management and Wyoming Water Research Center, the Wyoming Wildlife Federation, and the USDA Cooperative Extension Service. The Forest contributed nearly \$20,000 for construction costs for water spreaders and \$10,000 to the USDA Cooperative Extension Service for long-term monitoring and evaluation. The Wyoming Wildlife Federation contributed \$2,000 through the Jespersen Memorial Grant Fund, and the University of Wyoming contributed nearly \$10,000 through the Department of Range Management and Wyoming Water Research Center.

Nebraska National Forest. Duck's Unlimited and the Forest joined resources to continue an important program of waterfowl habitat improvement. The FY 1990 program of work included additional development of the Lord Lakes wetlands complex on the Samuel R. McKelvie National Forest in the Nebraska sandhills and the construction of the Boocke wetlands impoundment on the Buffalo Gap National Grasslands in South Dakota. Project participants built an additional 90 acres of pairing and brooding habitat for mallard, blue-winged teal, gadwall, and pintail. Other work at the sites included construction of a nesting island and several nesting platforms. Coordinated livestock grazing management will provide adequate levels of upland cover around these new developments for nesting waterfowl. These "Taking Wing" projects will provide new habitat for more than 300 breeding pairs of ducks and an annual production of more than 600 ducklings. It is anticipated that Canada geese will eventually begin nesting at these sites. Duck's Unlimited contributed 75 percent of the funds for this project and the Forest Service contributed the remaining 25 percent.

Pike and San Isabel National Forests. West Creek, a medium-sized trout stream on the South Platte Ranger District, is a high-use recreation area. In 1982, a severe flood scoured West Creek eliminating trout cover and overhanging vegetation. The Forest joined forces in a cooperative "Rise to the Future" project with Trout Unlimited and the Colorado Division of Wildlife to improve the condition of the riparian community and trout cover in the stream. In 1990, with the assistance of Trout Unlimited volunteers, the Forest constructed 16 structures and completed revegetation efforts along the stream. The Forest Service will monitor the effects of these structures. The Colorado Division of Wildlife will conduct population estimates of the trout population to determine the effectiveness of the project.



Medicine Bow NF: The front view of a headgate installed on Battle Creek.

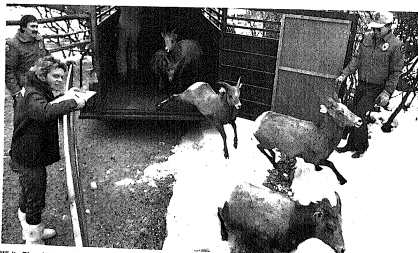


Nebraska NF: Putting the finishing touches on one of the water control structures used on the Samuel R. McKelvie NF.

Pike and San Isabel National Forests. Cascade Creek is one of two headwater streams in the Arkansas River drainage known to contain native populations of the threatened greenback cutthroat trout. Located upstream from a 100-foot waterfall, this isolated stream harbors a small but stable population of greenback trout. Preliminary observations indicated that adult habitat was limited to small pools which appeared to be at carrying capacity. In 1990, as part of the "Every Species Counts" emphasis program, the Colorado Division of Wildlife and the Forest Service initiated a small pilot project to study the effects of instream pools created using natural materials on the greenback population. The project created a total of six plunge pools utilizing natural plunge areas already in the stream by removing the protective stream bottom covering to downstream locations.

White River National Forest. During 1990, the Forest undertook four "Full Curl" projects for the management and reintroduction of bighorn sheep. The Forest provided \$13,500 in funds toward these projects. Through the Challenge Cost-Share Program, and through coordination with the Colorado Division of Wildlife, the Forest conducted reintroductions of bighorn sheep into historical range, habitat improvement on winter range, and studies of existing herds to determine habitat use and limiting factors.

The Colorado Division of Wildlife reintroduced bighorn sheep to the Flat Tops Plateau on the Eagle and Rifle Ranger Districts within historical range that was suitable but unoccupied. The overall objective is to conduct seven transplants with a total of 168 sheep over the next 5 years. Cooperators plan a series of habitat improvement projects to facilitate the transplants, and to help the sheep establish habitat use and migration patterns. Sheep were selected by age and sex from herds with both large and small home ranges, and from habitats similar and dissimilar to the release site to test the effect of these variables on successful reintroductions. Partners were the Rocky Mountain Bighorn Sheep Society, providing radio collars and \$3,000; the Bureau of Land Management, contributing \$2,000; the Colorado Division of Wildlife, contributing \$5,000; and the Rocky Mountain National Park, providing the bighorn sheep and \$1,000.



White River NF: Linda Ulmer from the White River NF, and Kevin Wright and Larry Green from the Colorado Division of Wildlife assist in the bighorn sheep release at No Name Creek. (Photo by Ray Wiley/Germwood Post)



Southwestern Region
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Southwestern Region

The Southwestern Region participated in 190 projects with 194 partners in FY 1990. The region contributed \$1,224,614 in funding and partners contributed \$1,908,197. Total project accomplishments included 18,592 acres treated, 3,151 structures built, and 58 inventories, reports, and surveys completed.

Carson National Forest. In July 1990, the Albuquerque Wildlife Federation, the Sandia Mountain Wildlife and Conservation Association, the New Mexico Wildlife Federation, and the Albuquerque Chapter of the Wild Turkey Federation, in conjunction with the Questa Ranger District, completed three projects critical to the wildlife and fish populations on the District. These projects implemented both "Get Wild" program and the "Rise to the Future" initiative. Work included: (1) construction of 60 fish structures to improve water temperature, hiding cover, spawning habitat, and streambank protection; (2) planting 950 containerized stock tree seedlings along the banks of Comanche Creek to provide future cover for trout and improve riparian habitat conditions; and (3) sloping, seeding, and mulching of road cutbanks adjacent to riparian areas to stabilize banks and minimize siltation.

Approximately 60 experienced volunteers spent two days matching their time, expertise, and equipment with Forest Service Challenge Cost-Share and New Mexico Department of Game and Fish Sikes Act funds. Forest Service matching funds amounted to approximately \$6,000. The New Mexico Department of Game and Fish provided an additional \$2,000 for the purchase of construction materials, tree seedlings, grass seed, and other items needed to implement these projects.

Cibola National Forest. Several volunteers from the Western Foundation for Raptor Conservation and from the Central Rio Grande Chapter of the Audubon Society cooperated with the Sandia Ranger District and the Forest to complete the construction of one and one-half miles of trail to improve public access to the Sandia Mountain Hawk Watch site. This "Eyes on Wildlife" project area is used to view and record raptor migrations along a migration corridor. Since 1985, volunteers and official observers from the Western Foundation for Raptor Conservation have recorded an annual average of 4,000 migrating raptors at the hawk watch site. In addition to the trail construction project, the Western Foundation for Raptor Conservation prepared and printed a brochure highlighting the importance of raptors in the ecosystem and inviting public participation in the hawk watch effort. The Forest Service contributed \$6,000 to the project; the Western Foundation for Raptor Conservation contributed \$14,780.

Cibola National Forest. The Oklahoma Department of Wildlife Conservation worked with the Black Kettle National Grasslands on the Forest to improve wildlife and fisheries habitat for wood ducks, white-tailed deer, Rio Grande turkey, bobwhite quail, bass, and channel catfish. Project participants placed 12 wood duck nest boxes; planted 3,000 trees and shrubs on 13 acres of abandoned oil and gas drill pads and other disturbed sites; installed a spring box and drinker to benefit quail, deer, and turkey; and constructed stream improvements such as single and double log plunge pool structures, deflectors, tree retards (tree barriers to slow down water flow), and fish shelter structures to benefit bass and channel catfish. These projects provided benefits for "Rise to the Future," "Taking Wing," and "Making Tracks" programs. The Forest Service provided materials, project designs, and labor totalling \$2,505. The Oklahoma Department of Wildlife Conservation contributed labor, materials, and equipment totalling \$2,991.

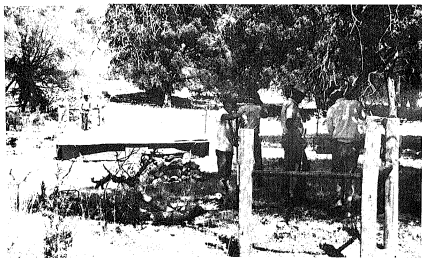


Cibola NF: Placing wood duck nest boxes at the Black Kettle National Grasslands.

Coconino National Forest. The Arizona Game and Fish Department (AGFD), Northern Arizona University (NAU), and the Northern Arizona Flycasters worked with the Forest and the Blue Ridge Ranger District to increase understanding and protection of the threatened Little Colorado spinedace. The Forest entered into agreements with the AGFD to conduct spinedace distribution studies in the East Clear Creek drainage, critical habitat for the species, and with NAU to study the habitat and diet of spinedace and the effects of predation of resident trout and green sunfish on spinedace. The Northern Arizona Flycasters, a local fishing organization, joined with the Forest to construct barriers to restrict vehicles from entering the main channel of East Clear Creek in the area of Jones Crossing. Prior to the barriers, vehicles were able to drive into the intermittent stream channel, disturbing the life in isolated pools and degrading the streambed and banks. This project, emphasizing the "Every Species Counts" program, should benefit both game and nongame species. Forest Service contributions were \$19,810 and the partners contributed \$18,440.

Coconino National Forest. A cooperative study between the Wilson Foundation, the Arizona Nature Conservancy, and the Forest Service began this year to pursue possible causes for the decline in the Bebb's willow community at the Fern Mountain Botanical Area on the Peaks Ranger District. Researchers conducted field and greenhouse experiments to assess how gradients in soil moisture, shading, competition, and herbivores affect the germination, growth, and survivorship of Bebb's willow seedlings. They also initiated a geographical comparison of Bebb's willow communities in the Southwest with respect to soil type, hydrology, soil moisture, and community composition. The impacts of native herbivores and cattle are being studied. This project provided an opportunity to conduct research which will benefit the plants in the Botanical Area and have applicability for other riparian areas on the Forest. It will also emphasize that "Every Species Counts." The Forest Service contributed \$8,000 and the partners contributed \$8,000.

Coronado National Forest. The "Making Tracks" projects developed within the Peloncillo Mountains of Southwest New Mexico will improve forage conditions and enhance water resource conditions for the Gould's Turkey. The New Mexico Wild Turkey Federation (NMWTF), Las Cruces Chapter, completed two Challenge Cost-Share projects on the Douglas Ranger District on Saturday, June 23, 1990. The group of 10 individuals endured 105 degree temperatures to accomplish both projects. One group reconstructed the Irishman Tank enclosure while the other constructed a parabolic water system in Skeleton Canyon. The NMWTF contributed \$4,500 and the Forest Service contributed \$8,400.



Coronado NF: Reconstruction efforts on the Irishman Tank enclosure by individuals from the New Mexico Wild Turkey Federation.

Kaibab National Forest. Six rain and snow catchments or guzzlers were constructed on the Tusayan Ranger District. Each guzzler has a water holding capacity of 17,000 gallons and was fenced for the exclusive use of wildlife. Water was strategically placed to encourage full habitat use by elk and better distribution of the herd. This will not only allow more habitat to be available for the elk, but will also prevent habitat conflicts between elk and livestock.

The Arizona Game and Fish Department (AGFD) donated all equipment and labor for construction of the "Elk Country" project. One half of the money needed for materials for three guzzlers was donated by the Rocky Mountain Elk Foundation (RMEF). The remainder of the money for materials was financed by the Forest Service. The Forest Service contributed \$42,600, the AGFD \$40,000, and the RMEF \$14,400.

Kaibab National Forest. Many partners worked together on the Dogtown and Kaibab Lakes project on the Williams and Chalendar Ranger Districts to improve fish survivorship and shoreline catch rate. Participants strategically placed more than 250 structures at each lake site to provide needed cover in lined reservoirs for this "Rise to the Future" project. The project benefited brown and rainbow trout, as well as large-mouth bass.

The Chandler Rod and Gun Club provided expertise in construction since they were involved in a similar project on the Tonto National Forest. The Boy Scouts of America contributed over 150 hours of labor in the construction and transport of over 500 "crappie condos," 30 "bass bungalows," and 80 fish tree structures. Three Boy Scouts earned Eagle Scout Merit Awards through this effort. Block-lite Industries of Flagstaff, a construction materials company provided approximately 1,000 cinder blocks for the project. In order to protect the liner in the reservoirs, the Chandler Rod and Gun Club cut and delivered 500 sidewall tires. These were tied to the blocks beneath the "crappie condos" in the event wave-action caused the condos to shift on the plastic liner.

On project day, volunteers tied together five to eight condos in a cluster. These were sling-loaded by helicopter into places predetermined by Tom Cain, USFS, and Scott Reger, AGFD. After all work was completed, Ace and Stuart Peterson, Coconino Sportsmen, provided an outstanding barbeque and beverages for 50 people. Partners and their contributions were: The Boy Scouts of America (Dave Bruce, Ian Larkin, and T.J. Dana) with \$750; Coconino Sportsmen affiliated with the Arizona Wildlife Federation (Ace Peterson) with \$450; Block-lite Industries, Flagstaff, Arizona, (Wall Smith, President) with \$500; the Chandler Rod and Gun Club (Mike Nelson) with \$1,000; and the Arizona Game and Fish Department with \$500. The Forest Service contribution was \$1,000.

Prescott National Forest. Eight partners and over 200 individuals collaborated to build the Round Valley silt retention structure on the Chino Valley Ranger District. The Forest designed the project both to improve wildlife habitat and to involve people with different values in working together toward a common goal. The project improved habitat for the lowland leopard frog and the speckled dace, both on the Forest's sensitive species list, as part of the "Every Species Counts" initiative. Participants constructed three islands to provide safe nesting places for waterfowl. They built the silt retention structure of rebar and concrete designed to resemble a natural rock structure with a "sand point" drain six inches above ground level to maintain a steady stream of water to the existing pools below. The retention structure created a two-acre marsh for waterfowl and riparian species upstream as part of the "Taking Wing" initiative and will continue sub-irrigation of habitat downstream. The Forest Service contributed \$21,000 while partners contributed \$18,000.



Prescott NF: Workers building the silt retention structure at Round Valley in the Chino Valley Ranger District.



Prescott NF: Volunteers moving logs into place for the log structures needed in the adjoining meadow area in the Chino Valley Ranger District.
(Photo by Gretchen Fitzgerald)

Prescott National Forest. The Seven-Up meadow rehabilitation project on the Chino Valley Ranger District involved five partners and over 100 individuals. The area is a pine meadow with one of the few small elk herds on the Forest. It is also a well-used Merriam's turkey nesting and roosting site. The District designed the project to repair erosion damage, enhance the area for elk and turkey habitat, and speed the healing process of the riparian system. The project, as part of the "Elk Country" and "Making Tracks" programs, involved repairing an old fence to control livestock grazing in the area, repairing two head cuts in the meadow area with water bars and seeding, and constructing five log structures and three rock/cement structures in a draw adjoining the meadow area. The instream structures created pools which will make water available to wildlife for most of the year. The Forest Service spent \$5,200 on the project and received \$5,400 in contributions.

Santa Fe National Forest. Individuals from the Bandelier National Monument and Mary Orr, Wildlife Biologist on the Espanola/Coyote Zone, planted coyote willow, New Mexico olive, and smartweed along the Rio Grande River to improve winter habitat for bald eagles wintering on the Espanola Ranger District. The objective of this "Every Species Counts" initiative was to improve cover and food for ducks along the river to make them available as food for bald eagles. The Forest Service and Bandelier contributed \$600 each.

A second project on the Santa Fe National Forest involved Ray Trujillo, a grazing permittee on the Jemez Ranger District. Ray constructed an elk watering hole and wildlife rainwater catchment drinker. Both structures benefit many species of wildlife. The Forest Service contributed \$1,500 and Ray contributed \$1,500 and his labor.

Tonto National Forest. A "Rise to the Future" project started in June 1989 at Saguaro Lake in Central Arizona is a multi-year comprehensive plan of work to improve fisheries habitat and angling opportunities. Participants installed eight types of habitat structures on the lake bottom at 11 sites. In addition, partners are developing increased parking facilities, floating fishing docks, shoreline access trails, and a breakwater across a 35-acre cove to improve fishing access opportunities. The Forest Service, the Arizona Game and Fish Department, and Anglers United (a private, nonprofit organization) are the three main partners. Total project cost is estimated at over \$2.89 million, including the value of volunteer labor. This project is the largest warmwater fisheries project ever conceived and planned in this region. The three partners contributed \$889,000 in FY 1990. Completion is scheduled for FY 1992.

Eleven sponsors were needed for the 11 planned project sites. Sponsors were found and the habitat part of the project was essentially completed in FY 1990. Project sponsors include the Apache Bass Club, Arizona Anglers Family Fishing Club, Arizona Bass Club, Arizona Wildlife Federation, Canyon Bass Association, Cave Creek Casters, Chandler Bass Club, Desert Flycasters, Saguaro Bassmasters, Scottsdale Sportsman's Club, Westside Bassmasters and Chandler Rod and Gun Club.

To date, an estimated 1,200 volunteers have donated over 18,000 hours of work. Agency people have contributed over 11,000 hours. When complete, the labor contributed to the project will exceed 24 person years. More than half of the labor will be from volunteers.

Intermountain Region

The Intermountain Region participated in 199 projects with 188 partners in FY 1990. The region contributed \$633,735 in funding and partners contributed \$672,220. Total project accomplishments included 13,781 acres treated, 464 structures built, and 100 inventories, reports, and surveys completed.

Ashley National Forest. The Utah Division of Wildlife Resources (UDWR) reintroduced ten to fifteen otters into the Green River on the Flaming Gorge National Recreation Area (FONRA). This release was part of a large program sponsored by the UDWR, the Colorado Division of Wildlife, the Forest Service, the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service, the Ute Indian Tribe, and private individuals and organizations. The purpose of the release was to re-establish river otters in the Green and Colorado River systems. Otters released as part of this "Eyes on Wildlife" program have been a great success with Flaming Gorge visitors who enjoy watching their playful antics. After raising money by selling "Otter Dollars," Kearns High School students helped pay for the reintroduction and participated in the release. The UDWR and the Forest Service each contributed \$3,000 toward this project.



Intermountain Region
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324 25th Street
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Ashley NF: Kearns High School students assisted by Utah Division of Wildlife resources and FS personnel, release river otters into the Green River. (Photo by Wendy Rehrich, Stager, FONRA)

Ashley National Forest The Forest Service at Flaming Gorge National Recreation Area joined forces with the Utah Division of Wildlife Resources (UDWR) and Brigham Young University (BYU) raptor biologists to study the effects of humans and boat activity on nesting osprey on the Flaming Gorge Reservoir. As part of this "Every Species Counts" initiative, they monitored population dynamics of this raptor, classified as sensitive by the State of Utah. The study resulted in the discovery of an additional active peregrine falcon nest. Labor contributions consisted of \$2,500 from UDWR, \$1,000 from BYU, and \$2,500 from the Forest Service.



Ashley NF: Osprey on nest above Flaming Gorge Reservoir. (Photo by John Crowley)



Caribou NF: A Cub Scout from Troop 443 plants a tree. (Photo by Ken Timothy)

Caribou National Forest. In cooperation with the Idaho Department of Fish and Game (IDFG) and the Cub Scouts within Oneida County, the Malad Ranger District planted trees to improve wildlife habitat on the Curlew National Grasslands. The IDFG provided 12,000 trees, the Cub Scouts helped plant the trees, and personnel on the District prepared the site for planting, supervised and helped with planting, and fenced the area.

This "Taking Wing" project provided habitat for several wildlife species including pheasants, sharp-tailed grouse, passerine birds, mourning doves, owls, and deer. Other benefits include soil stabilization, increased water tables, and natural insect control by providing habitat for insect-feeding species. The Forest Service contributed \$4,000 and the partners contributed the equivalent of \$4,200.

Dixie National Forest. A survey project, as part of the "Every Species Counts" initiative, completed inventory of potential habitat on Boulder Top for the Aquarius Indian paintbrush. This species is endemic to this Forest on Boulder Mountain managed by the Teasdale and Escalante Ranger Districts. The districts established monitoring studies to assess impacts to the species from livestock grazing and timber management activities. The Utah Natural Heritage Program provided matching funds amounting to \$10,000 for a total project cost of \$20,000.



Dixie NF: Aquarius Indian paintbrush. (Photo by Joel Tuhy, Utah Natural Heritage Program)



Manti-LaSal NF: Kachina daisy. (Photo by Duane Atwood, Regional Botanist)

Humboldt National Forest. The Ely Ranger District completed a prescribed burn in the Taylor Bench/Sawmill Canyon area of the Forest to improve food sources for elk on critical winter range as part of the "Elk Country" program. Partnerships with the Rocky Mountain Elk Foundation, several individuals, three local mines, the new White Pine Sportsmen's Club, and the Nevada Division of Forestry enabled the District to burn approximately 630 acres of sagebrush and pinyon-juniper in the spring of 1990. The Forest Service contributed \$9,000 and the partners contributed \$12,000.

Manti-LaSal National Forest. A cooperative "Every Species Counts" project between the Moab Ranger District and the Utah Natural Heritage Program completed survey work for two sensitive plants, Beck biscuitroot and Kachina daisy. The project determined species distribution and management needs. The Kachina daisy is restricted to San Juan County in Utah, and adjacent Montrose County in Colorado, primarily on National Forest administered lands. The Beck biscuitroot is endemic to San Juan and Wayne Counties in Utah, primarily on National Forest and National Park Service lands. Total cost of the project was \$8,000 shared equally.

Payette National Forest. Cooperation between Idaho Steelhead and Salmon Unlimited and the McCall Ranger District resulted in construction of a sheep bridge and fencing of a critical spawning area of Lake Creek, a tributary of the Secesh River. The group helped finish the bridge and constructed a pole "zig-zag" fence as "wings" to help with herding the sheep across the bridge. This project added the final step to a stream fencing project started in the area three years ago. The Forest contributed \$2,000 in equipment and supplies to this "Rise to the Future" project, while Idaho Steelhead and Salmon Unlimited contributed \$2,000 in labor.

Payette National Forest. The Lake Creek tree revetments (retaining wall structures) and erosion control project is a cooperative project with the Nez Perce tribe to place tree revetments inside a fenced area at Three Mile Meadow on the McCall Ranger District. The crew strategically placed trees to help control erosion as well as provide rearing habitat for summer chinook salmon. The crew also helped to upgrade the electric stock fence. The Three Mile area contains critical spawning habitat for summer chinook salmon. Past mining and grazing practices had damaged the area. The Forest contributed \$6,000 for completion of these "Rise to the Future" projects. This was matched in labor and supplies by the Nez Perce tribe.

Salmon National Forest. The North Fork and Cobalt Ranger Districts cooperated with Job Training Partnership Act (JTPA) students through the Idaho Job Service to correct fish migration barriers for steelhead and chinook salmon and to improve spawning and rearing habitat for westslope cutthroat trout. The Forest Service provided materials and supervision estimated at \$1,300 to this "Rise to the Future" project while the Idaho Job Service provided three JTPA students and their wages for five days.

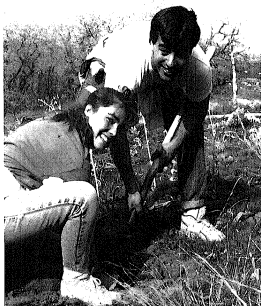
Toiyabe National Forest. The Silver King Creek Paiute cutthroat trout restoration project, part of the "Every Species Counts" initiative, involved over 100 volunteers from Trout Unlimited. They climbed high into the Carson-Iceberg Wilderness to provide much needed labor to improve fisheries habitat in the only home range of the Paiute cutthroat trout. Efforts on this "Rise to the Future" project included reconstruction of optimum spawning and rearing habitat, major reductions in sediment sources, and significant improvements in the stream channel pool/riffle ratio. Volunteers provided food and labor that would have cost the Forest Service over \$8,000. Forest Service employees contributed their labor on personal time, donating approximately 500 hours of work.

Uinta National Forest. Partners for the elk winter range improvement project on the Spanish Fork Ranger District included the Utah Division of Wildlife Resources (UDWR), the Rocky Mountain Elk Foundation (RMEF), and the Utah Sportsman Alliance. This "Elk Country" project was designed to improve 200 acres of critical elk winter range on the Wasatch Front. One benefit was attraction of wintering elk away from farms and orchards where past depredation problems were of concern. The Forest Service contributed \$10,000, the UDWR contributed \$10,000, the RMEF contributed \$5,000, and the Utah Sportsman Alliance contributed \$500 to the project. This ongoing project will complete re-seeding of 400 acres of elk winter range in an area closed to livestock grazing.

Wasatch-Cache National Forest. The Carter Creek enhancement project installed 26 instream structures to abate erosion, to create pool and spawning habitat, and to provide cover for Bonneville cutthroat trout. This "Rise to the Future" project took place on the Evanston Ranger District. The Forest Service contributed \$1,700 and Hill Air Force Base/Utah State Prison contributed \$1,700.



Tolyaba NF: Trout Unlimited volunteers work on a rock line on Silver King Creek project. (Photo by Mary Coburn, Fisheries Biologist, Tolyaba NF)



Uinta NF: Brigham Young University students planting bitterbrush seedlings as part of the big game winter range enhancement project on the Spanish Fork Ranger District. (Photo by Deanna Nelson, Biologist)

Pacific Southwest Region

The Pacific Southwest Region participated in 387 projects with 282 partners in FY 1990. The region contributed \$1,451,622 in funding and partners contributed \$2,914,654. Total project accomplishments included 13,757 acres treated, 1,308 structures built, and 327 inventories, reports, and surveys completed.

Inyo National Forest. The Nevada Department of Wildlife and the Nevada Flyfishers Association of Las Vegas cooperated in the repair of the Trail Canyon spillway, a small dam that was in danger of total failure. Additional activities involved fish habitat and watershed restoration projects in the upper reaches of the watershed. Contributions to this "Rise to the Future" project included \$3,200 from the Nevada Flyfishers Association of Las Vegas, \$1,100 from the Nevada Department of Wildlife, and \$2,650 from the Forest Service.

Lake Tahoe Basin Management Unit. The Forest Service, Boy Scouts of America, Troop 167, and the Wood family planted aspen and black cottonwood trees along the edges of Meeks Meadow. These trees will help revegetate the site with some of the original species of trees that had been eliminated by beaver activity. The project will also assist in soil stabilization, wildlife cover, and esthetic enhancement of the meadows. The California Tahoe Conservancy contributed \$1,000 and the Forest Service contributed \$500.

The Lake Tahoe Basin also completed a restoration project for the Lahontan cutthroat trout, a threatened species. The Forest Service and the California Department of Fish and Game (CDF&G) have cooperated in restoration of the Lahontan cutthroat to the headwaters of the Upper Truckee River. In 1990, CDF&G began removing nonnative trout from the headwaters area. In 1990, CDF&G completed final removal efforts and introduced the first Lahontan cutthroat trout, with the planting of 2,000 fingerlings in Meiss Lake. CDF&G contributed \$30,000 and the Forest Service contributed \$8,000 towards this project. The restoration efforts for this "Every Species Counts" project will continue in 1991 with the introduction of adult Lahontan cutthroat trout and the development of a fisheries habitat improvement plan for the Upper Truckee headwaters.



Pacific Southwest Region
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Plumas National Forest. The Forest, as part of their emphasis on "Every Species Counts," cooperated with a seed company to help increase knowledge of the native grass seeds in the area. The Redwood City Seed Company produced a booklet and held a field demonstration on how to collect, clean, store, test, and disseminate native grass seeds. The Forest contribution was \$1,000. Participants in the field demonstration included individuals from the Plumas, Klamath, and Eldorado National Forests, Caltrans, the Department of Water Resources, the Plumas Corporation, and Loyalton High School.

San Bernardino National Forest. The Crowder Canyon riparian enhancement project involved cooperation with Southern California Edison, Southern California Gas, the San Bernardino County Fish and Game Commission, Quail Unlimited, and the Forest. Their combined forces in this "Rise to the Future" effort helped improve this critical riparian resource on the Cajon Ranger District. Off-highway vehicle use had seriously degraded the habitat. Participants constructed fences and other types of barriers to vehicle use and erected signs to notify users of the restrictions on vehicle use. As a result of this "Every Species Counts" initiative, many riparian-dependent species, including several sensitive and endangered species, will benefit. Quail and deer should also increase in the area following vehicle control. The Forest Service provided \$3,000 and the cooperators contributed \$17,760.



Plumas NF: Individuals cleaning seed at the grass seed collection workshop. (Photo by Lawrence Jazaway)



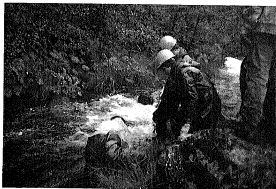
San Bernardino NF: U.S. Marine Corps personnel helping in the construction of the self-guided nature trail.

Shasta-Trinity National Forest. The Forest participated in two "Rise to the Future" projects, one for anadromous fish and one for inland fish. In cooperation with the Trinity River Restoration Program group the Forest installed fish habitat improvement structures along Big Creek for the long-term benefit of steelhead juvenile production. The Trinity River Restoration Program group contributed \$34,628 toward the completion of this anadromous fish project.

The Trinity River Conservation Camp and the Forest cooperated in an effort to install inland fish habitat improvement structures for the long-term benefit of juvenile bass production on the Trinity Lake shoreline. Largemouth bass will benefit from this project. The Conservation Camp contributed \$73,186.



San Bernardino NF: A volunteer helps erect a fence barrier in Crowder Canyon.



Shasta-Trinity NF: Volunteers help install a fish habitat log structure in Big Creek.

Sierra National Forest. The Council on International Educational Exchange (CIEE) provided eight European volunteers who donated their travel to the United States, as well as their time and labor, for two weeks of resource work. Two of the volunteers stayed for an extra week to assist with this "Get Wild" project. The crew completed construction of one bowl structure in meadow #195 near Benedict Meadow, and seeded several previously completed structures with grass. The structure at meadow #195 stopped the first signs of erosion at the base of an otherwise healthy meadow. If left untreated, erosion activities could have progressed throughout the entire meadow. The volunteers also worked with the zone resource crew in completing three bowl structures at Upper Long Meadow. These structures will benefit wildlife as well as watershed, range, and fisheries resources by reducing soil and forage loss to erosion. The CIEE crew worked with the resource crew to complete 25 acres of oak enhancement in the Hogan sale area of the Mariposa Ranger District. The crew pruned oak stump sprouts in the Penny Pines and O'Neal's plantation to improve acorn production for wildlife forage.

The value of the donated wages was approximately \$3,800. The Forest Service provided food, transportation, housing, a crew leader, and materials at a value of approximately \$2,500.



Sierra NF: CIEE volunteer crew and their completed bowl structure at meadow #195. Left to right: Kris Fox, Alexis Rickenbach, Gwen Vickers, Monice Ghail, Cisca Sopaheluwakan, Olivier Mauruc, Robyn Smith (Forest Service), LaDonna Hargis (Forest Service), and Beatrice Sprucinski.

Sierra National Forest. The Forest participated in a cooperative project to rehabilitate Exchequer Meadow, a magnificent 36-acre wet meadow on the Kings River Ranger District, and construct an enclosure fence as part of the "Every Species Counts" and "Get Wild" programs. Exchequer Meadow is within the range of the willow flycatcher, sensitive species, and the North Kings deer herd. The project was designed to eliminate headcutting, revegetate the damaged portion of the meadow, and eliminate cattle grazing from the restoration area until the watershed stabilized and vegetation became established.

Funding was provided through two sources: the California Environmental License Plate (CELP) fund from the California Department of Fish and Game, and excess timber sale receipts for watershed restoration from the Forest Service. This revenue was augmented by many hours of volunteer work and contributed time from interagency staff.

The project was a unique cooperative venture. A meadow management workshop, hosted by the Kings River Ranger District and sponsored by the Forest Management Team, was held in June. Participants included California Department of Fish and Game, Pacific Southwest Range and Experiment Station, Fresno County Sportsmen's Club, Cal Trout, range permittees, university associates, Pacific Gas and Electric Company, a member of the County Board of Supervisors, the Forest Management Team, the Forest resource staff, resource specialists from other Districts, and the Kings River District resource staff. Workshop presentations on aspects of meadow formation and management were alternated with fence building and meadow stabilization projects.

Six Rivers National Forest. The Pacific Coast Federation of Fisherman's Association (PCFFA), the California Department of Fish and Game (CDF&G), and the Willow Creek Community Service District (WCCSD), cooperated in raising, tagging, and releasing 42,000 chinook salmon from the Horse Linto Creek facility on the Lower Trinity Ranger District. The Forest Service and the CDF&G provided \$3,000 in labor and supervisory services, and the PCFFA, through the Salmon Stamp Program, contributed \$27,000 to this "Rise to the Future" project.

Six Rivers National Forest. An "Every Species Counts" project on the Mad River Ranger District involved the design and implementation of a monitoring plan for Lassics pea. This species is one of the rarest plant species found in the Lassics region with an extremely restricted range. The Lassics pea is known only from a single population on the northeast slope of Red Mountain found on private lands bordering the District.

This project established a monitoring plan to provide information on the population dynamics of the species over time and provided for collection of first and second year monitoring data. This information will serve to guide the Forest in the biologically sound management of this species. The California Native Plant Society contributed \$2,000 and the Forest Service contributed \$1,000 to the project.

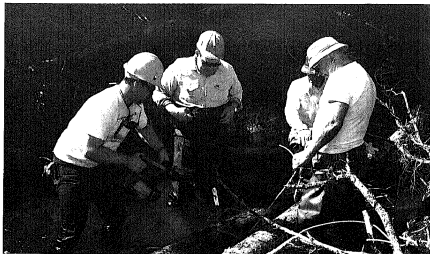
Stanislaus National Forest. Members of the California Native Plant Society (CNPS), in cooperation with the Summit Ranger District, completed a project emphasizing the "Eyes on Wildlife" initiative. Nine members of the CNPS volunteered for three Saturdays to build a boardwalk across a meadow connecting a heavily-used campground in the Pinecrest Recreation Area. A second phase of the project will be to develop and print an interpretive pamphlet which will explain the value of the meadow and the need to protect it from soil compaction and overuse. The CNPS and the Forest Service contributed \$2,300 each toward the completion of this project.



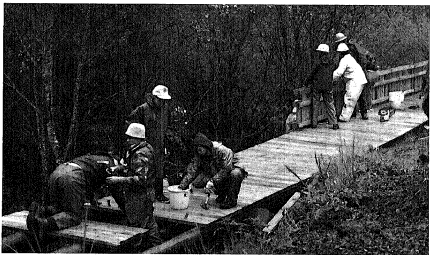
Sierra NF: Forest Service employees working with volunteers at Exchequer Meadow. Note the systematic manner in which blocks and logs are placed to create the fence.



Stanislaus NF: A member of the California Native Plant Society helps construct the boardwalk over a meadow on the Summit Ranger District.



Deschutes NF: Volunteers working to anchor a log structure to the streambed.



Mt. Hood NF: Northwest Steelheaders volunteers laying decking on stringer poles at the barrier-free Clackamas River fishing pier.



Pacific Northwest Region
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Pacific Northwest Region

The Pacific Northwest Region participated in 68 projects with 161 partners in FY 1990. The region contributed \$605,989 in funding and partners contributed \$739,045. Total project accomplishments included 354,771 acres treated, 1,267 structures built, and 147 inventories, reports, and surveys completed.

Deschutes National Forest. A large fire in 1979 burned approximately three miles of streamside vegetation along Tumalo Creek. Due to concern for potential flooding, the District cleared the stream of its large, woody material and salvaged the fire area. Lacking protective cover, the streambanks began eroding. In 1990, a cooperative effort treated the lowest 1.2 miles of Tumalo Creek with additions of over 85 pine trees, rootwad, limbs, and all. The project used burn-scarred rootwads, logs, and other woody materials which remained within the floodplain after the logging operations. Volunteers added a total of 250 structures to the creek to provide for fish habitat restoration and to improve streambank stability. Heavy equipment moved full-sized trees to the stream and skidded them into place. An excavator keyed in the trees and built numerous log jams for pool formation. Volunteers from the central Oregon community of Bend pitched in to anchor the material to itself or to the streambed. Volunteers planted willows and cottonwoods along the stream following the instream structure work. This "Rise to the Future" project was embraced as a community effort due to its proximity to the city of Bend.

The project was funded by Fish America, the Deschutes Chapter of Trout Unlimited, the Oregon Restoration and Enhancement Board, the Deschutes River Mitigation and Enhancement Committee, and the Forest Service. Volunteers from Trout Unlimited, Central Oregon Flyfishers, the Oregon Department of Fish and Wildlife, the Central Oregon Federation of Flyfishers, and the Boy Scouts helped make this project a success.

Mt. Hood National Forest. The Estacada Ranger District completed a cooperative "Rise to the Future" project with the Northwest Steelheaders. Volunteers from Northwest Steelheaders helped build a barrier-free fishing pier over the Clackamas River. A dedication ceremony was held on May 26, 1990, to celebrate the opening of this fishing pier, which will provide superior fishing access for all anglers, including the physically challenged. The extent of labor and materials donated to construct this barrier-free fishing pier reflected a commitment to quality recreation for everyone.

Fremont National Forest. The National Audubon Society, through its Adopt-a-Forest Program, worked with the Forest to map old growth over the entire Forest. The project will assist the Forest in locating old growth habitat areas for indicator species (pileated woodpecker, marten, three-toed woodpecker, and goshawk) outlined in the Fremont Forest Plan. Managing for indicator species will help the Forest manage for other species that live in areas of similar habitat. The information from this "Get Wild" project will also be used to better address old growth issues in Forest management. Participants completed 88 maps, consisting of U.S. Geological Service quadrangles. The Audubon Society contributed \$1,600 in personnel and mapping materials, as well as \$2,400 in funding for Forest service personnel. The Forest Contributed \$4,000 in personnel to complete the mapping project.

Mt. Baker-Snoqualmie National Forest. The South Fork Nooksack project is located on the Mt. Baker Ranger District. This year was the beginning of a five-year fish habitat/watershed restoration project to improve habitat conditions for wild runs of salmon and trout in the South Fork Nooksack and its major tributaries. In FY 1990, the District worked with partners to install 100 log and boulder structures in Wanlick Creek, a major tributary. These structures will reduce streambank and channel erosion and sedimentation as well as increase adult salmon and juvenile rearing habitat. In addition, participants planted 10 acres of streambank with willow cuttings to help stabilize bank surface erosion and to provide streambank cover. This "Rise to the Future" project primarily benefited spring chinook and steelhead trout. Partners were: the Washington Department of Fisheries, Wildlife, and Natural Resources; the USDI Fish & Wildlife Service; the Lummi Tribe; the Nooksack Tribe; and the Federation of Fly Fishers. Total partnership contribution was \$50,000. Forest Service contribution was \$55,000.

Rogue River National Forest. The Forest cooperated in a project with the Oregon Natural Heritage Data Base to define the range and taxonomic status of the sedge *Carex scabriuscula* and its closest relative, *Carex gigas*. *Carex scabriuscula* has not been seen in its original geographic range since 1902. A University of New Hampshire sedge expert completed field work and taxonomic determinations on the Rogue River, Siskiyou, Klamath, and Shasta-Trinity National Forests, as well as on adjacent Bureau of Land Management and private land. The cooperator and the Forest Service each contributed \$2,800.

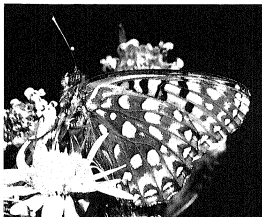
Olympic National Forest. The Quinault Lodge (ARA Leisure Services), the Olympic National Park, and the Rain Forest Resort joined forces to develop the Quinault Interpretive Services Program. This program will provide information to over 30,000 visitors annually on a variety of management issues and concerns, including fisheries and wildlife. The program featured the "Rise to the Future" program, including 23 guided walks in the riparian zone near Lake Quinault. National Fishing Week featured two special evening programs and films on Forest fisheries resources. Interpreters presented programs on a variety of wildlife issues, including threatened and endangered species. Nature walks featured the "Animal Inn" program and the concept of habitat diversity. The Forest Service provided \$2,000 and the three partners provided \$9,700 towards this program.

Siustlaw National Forest. The Northwest Steelheaders, Lincoln City Chapter cooperated with the Forest to complete an instream structure project along the Little Nestucca River. Large woody material and boulders placed in the stream channel improved rearing habitat for coho salmon and steelhead trout along 1/4-mile of the river. A log weir raised the water level and reestablished an abandoned side channel. The Forest Service used heavy equipment to place logs, tree tops, and boulders in the stream channel. Ten volunteers from the Lincoln City Chapter of the Northwest Steelheaders stabilized the structures by cabling the logs to boulders or to the bedrock stream bottom. The Forest Service contributed \$15,000 to this "Rise to the Future" project and the Steelheaders contributed approximately \$2,000.



Siustlaw NF: Northwest Steelheader members anchor large woody debris by cabling it to boulders in the Little Nestucca River.

Siuslaw National Forest. The Forest cooperated with The Nature Conservancy to improve management of habitat of the threatened Oregon Silverspot butterfly as part of an "Every Species Counts" project. The agreement included contributions by Dr. Paul Hammond, a private entomologist, and Dr. Steven Courtney and his students from the University of Oregon. The project attempted to: (1) clarify management areas and implementation schedules for butterfly populations at three sites on the Forest, based on ongoing studies of behavioral patterns and habitat use of the butterfly and on tentative species recovery objectives; (2) produce a draft management plan for the population on The Nature Conservancy preserve at Cascade Head with recommendations for management actions for adjacent Forest Service lands; and (3) monitor Oregon Silverspot butterfly populations at three Forest Service sites. Special emphasis was given to determining abundance and movements of adults in the sheltered forest fringe along one of the areas. The Forest contributed \$7,500 and The Nature Conservancy contributed \$2,750.



Siuslaw NF: An Oregon silverspot butterfly.

Umatilla National Forest. The Rocky Mountain Elk Foundation (RMEF) and the Oregon Department of Fish and Wildlife (ODFW) cooperated with the Forest to construct 1.75 miles of livestock fencing along the Bridge Creek elk winter range boundary between the ODFW's Bridge Creek Management Area and the Pomeroy Ranger District. The new fence replaces a fence which was more than 50 years old and in desperate need of repair. This project will facilitate a livestock grazing management plan which will benefit both livestock and elk.

Willamette National Forest. A partnership effort between the Forest, the U.S. Army Corps of Engineers, the USDA Plant Materials Center, and the Lane County Sheriff completed an "Eyes on Wildlife" project to reestablish ecosystems in reservoir drawdown zones. The Corps of Engineers' Waterway Experiment Station contributed \$25,000 and the study project design. The Forest contributed \$25,000, project materials, and supervised implementation. The USDA Plant Materials Center contributed test species. The Lane County Sheriff provided an inmate work crew to assist in project accomplishment.

As part of the "Rise to the Future" program, participants installed a shoreline erosion control structure on Dorena Reservoir to demonstrate economical bank protection using locally available materials. Participants conducted a planting survival study at the same reservoir to improve knowledge of planting techniques and species tolerance for use by reservoir managers in other areas. Cooperators completed habitat improvement projects at Blue River Reservoir and Cougar Reservoir on the Blue River Ranger District, Lookout Point Reservoir on the Lowell Ranger District, and Hills Creek Reservoir on the Rigdon Ranger District. Depending upon reservoir site conditions and exposed area, treatments included annual ryegrass, Columbia sedge, bulrush, cattail, water smartweed, spotted smartweed, water lily, coyote willow, Pacific willow, Oregon ash, and bald cypress.

Specific species benefiting directly from these projects include the rainbow trout, largemouth bass, crappie, Oregon chub, coarse-scale sucker, elk, blacktail deer, Canada geese, and mallard duck. Secondary benefits accrued to the bald eagle, great blue heron, and osprey by increasing prey base for these species.



Willamette NF: Lane County inmate crew members fertilizing fish habitat vegetation at Blue River Reservoir. (Photo by Del Sheehy)

Southern Region

The Southern Region participated in 275 projects with 314 partners in FY 1990. The region contributed \$946,427 in funding and partners contributed \$1,278,534. Total project accomplishments included 17,624 acres treated, 1,881 structures built, and 119 inventories, reports, and surveys completed.



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Cherokee National Forest. The Forest developed a "Rise to the Future" project on the Nolichucky Ranger District that promoted trout management, introduced children to fishing, provided opportunities for the elderly and persons with disabilities, and contributed to restoration of the Southern Appalachian brook trout. In cooperation with the Cherokee Chapter of Trout Unlimited, the Tennessee Wildlife Resources Agency, Merkel Construction Company, and Hooked on Fishing International, the Forest built stream structures along three quarters of a mile of Horse Creek through the Horse Creek Recreation Area where camping, picnicking, swimming, and a trail for persons with disabilities are available.

The District constructed stream structures and built access points for persons with disabilities, the elderly, and children to view or fish for trout. The State established special fishing regulations for the area: the limit on trout was reduced from seven to two per day; fishing in the area was limited to persons with disabilities, children, and the elderly; the state stocked catchable-sized rainbow trout regularly; a campground host fed the fish daily; and the Forest initiated educational programs including Kids' Fishing Days. The Forest hopes to reduce fishing pressure on the headwater tributaries which support brook trout by providing above-average fishing on easily accessible streams and by educating the public about trout. Contribution to the project included labor, equipment rental, catchable-sized trout, and trout food, totaling \$5,332. The Forest contributed \$5,000.

Daniel Boone National Forest: The Forest, in partnership with the Kentucky Department of Fish and Wildlife Resources, the University of Kentucky Department of Forestry, Eastern Kentucky University, and the U.S. Fish and Wildlife Service, began a radiotelemetry study of federally endangered Virginia big-eared bats on the Stanton Ranger District in June 1990. Cooperators captured 30 male Virginia big-ears in mistnets, weighed them, and outfitted them with tiny transmitters glued to their fur. Researchers released the bats into the wild and tracked them with receivers during their nightly movements for the duration of the 10-day life span of each transmitter.

Cooperators also placed cloth sheeting beneath several roosts used by the bats during daylight hours so that fresh droppings could be collected for food analysis. Researchers collected samples of night-flying insects from throughout the study area so they could determine which insects the feeding bats selected.

Information gathered during 1990 will enable the Forest Service to determine how far Virginia big-eared bats range from their caves and rock shelters to forage, what types of feeding habitat they utilize, what kinds of insects they prefer, and what areas are important to the bats as travel corridors. During the summer of 1991, a similar study will study female bats. The Virginia big-eared bat is one of the few federally-listed species that seems to be increasing in numbers; largely due to the acquisition and protection of colony sites by the Forest Service and The Nature Conservancy and to the wholehearted voluntary protection given to sensitive big-eared bat caves by members of the organized caving community. The Forest Service contributed \$15,000 and cooperators contributed \$61,145 to this "Every Species Counts" project.



Daniel Boone NF: A tiny transmitter being glued to the fur of a Virginia big-eared bat.



Daniel Boone NF: Brenda Lewis erecting a waterfowl nest box at Cave Run Lake on the Morehead Ranger District.



Daniel Boone NF: Richard Hunter placing a water control structure at Cave Run Lake on the Morehead Ranger District.

Daniel Boone National Forest. As part of the "Every Species Counts" initiative, the University of Kentucky and the Forest Service cooperated to study the endangered red-cockaded woodpecker. This project described the characteristics of woodpecker cavity trees and habitat used on the Forest, compared and contrasted active and inactive colonies throughout the Forest, monitored active colonies to determine reproductive status, and surveyed potential habitat for additional red-cockaded woodpecker colonies. As a result of these efforts, the Forest completed the first comprehensive reproductive survey since the early 1980's. This survey yielded valuable information on nesting periods, fledging dates, and the number of young produced on the Forest. Participants completed surveys on approximately 1,000 acres for additional colonies. A publication in the *Journal of Wildlife Management*, now in the final stages of editing, describes the "atypical" habitat where the woodpeckers are found. This publication also describes statistical differences between the active and inactive colonies on the Forest. The Forest's contribution of \$5,600 was matched by contributions of over \$14,200 from the University of Kentucky.

George Washington National Forest. The Dry River Ranger District cooperated with Harrisonburg High School, Oak Leaf Nursing Home, Bridgewater College, Rockingham Bird Club, and Cub Scout Pack 42 to build 105 artificial homes for watchable wildlife to increase wildlife viewing opportunities for forest users around Forest Service recreation areas. The target species for this "Eyes on Wildlife" project were nongame birds such as bluebirds, wrens, chickadees, titmice, great-crowned flycatchers, and vireos, as well as bats. The Forest Service share of the venture was \$1,785. Cooperators contributed \$1,115.

National Forests in Mississippi. The Strong River Ranger District is conducting a long-term turkey habitat study through a Challenge Cost-Share project as part of the "Making Tracks" program. This project involved the Forest Service, the National Wild Turkey Federation, Mississippi State University, the Mississippi Department of Wildlife, Fish, and Parks, as well as 10 other cooperators. The study will determine long-term habitat use and effectiveness of management techniques for wild turkeys and associated species. The Forest contributed \$6,000; cooperators contributed \$150,000.



National Forests in Mississippi: Wild turkeys.

National Forests in North Carolina. The National Forests in North Carolina, in cooperation with Ducks Unlimited and the North Carolina Wildlife Resources Commission, improved 116 acres of waterfowl habitat on the Croatan National Forest. This "Taking Wing" effort included liming and fertilizing habitat, and the placement of flashboard risers and other water control structures.

National Forests in North Carolina. The Pisgah, Wayah, Grandfather, and Toecane Ranger Districts, in cooperation with Trout Unlimited and the North Carolina Wildlife Resources Commission, are conducting a three-year experiment, as part of the "Rise to the Future" program, to determine whether supplemental feeding of wild trout with commercial trout food will increase the size and number of catchable trout in selected streams. Forest Service contributions were \$10,000. Cooperator contributions were \$32,000 for this "Rise to the Future" project.

Sumter National Forest. The Long Cane Ranger District in cooperation with local B.A.S.S. Clubs, the U.S. Army Corps of Engineers, and the South Carolina Wildlife and Marine Resources Department, installed over 500 fish structures on J. Strom Thurmond Reservoir as part of a cooperative "Rise to the Future" project. The District will monitor the effectiveness of these newly installed fish structures.



Sumter NF: Donny Ray, wildlife technician on the Long Cane Ranger District, monitors the effectiveness of the newly installed fish structures.



Eastern Region
USDA Forest Service
310 West Wisconsin Avenue
Room 500
Milwaukee, WI 53202
614-291-3612, FTS 362-3612

Eastern Region

The Eastern Region participated in 219 projects with 231 partners in FY 1990. The region contributed \$1,968,500 in funding and partners contributed \$1,794,900. Total project accomplishments included 12,410 acres treated, 5,154 structures built, and 310 inventories, reports, and surveys completed.

Allegheny National Forest. As part of a three-way partnership, the Forest, the Kinzua Fish and Wildlife Association, and the U.S. Army Corps of Engineers constructed 300 tire reef structures and installed them in Allegheny Reservoir. These structures will provide some permanent fish habitat within the fluctuating levels of the reservoir. To date, the state record muskie and walleye have both been taken from the reservoir, possibly as a result of this successful "Rise to the Future" project.



Allegheny NF: Two fishermen displaying their prize catch from the Allegheny Reservoir.

Chequamegon National Forest. Park Falls Ranger District and Ducks Unlimited cooperated on a project to enhance wetland habitat by developing a small impoundment along Popple Creek. Created by the placement of a small dam, the Popple Creek impoundment provides valuable habitat for many wildlife species, including great blue herons, American bitterns, belted kingfishers, and numerous species of waterfowl as well as furbearers. Wetlands created through impoundments allow managers to manipulate water levels by means of a water control structure located in the dam. Through periodic drawdowns, the Forest Service can manage the wetland to provide a desired composition of vegetative structure and diversity over time. Both partners contributed \$12,500 to this "Taking Wing" project.

Green Mountain National Forest. The Forest, in cooperation with the Vermont Department of Fish and Wildlife, began efforts to reestablish marten in Vermont, as part of the "Every Species Counts" initiative. Late in 1989, the State released 40 martens into the White Rocks National Recreation Area (NRA) of the Forest, transplanted from areas in New York and Maine.

Although, the statewide recovery plan recognized that the 34,178-acre White Rocks NRA is not large enough to support a self-sustaining population, cooperators believed the NRA would serve as an important "core" area for marten in southern Vermont. White Rocks NRA does provide suitable habitat for the species. For these and other reasons, the NRA became the initial release site for the reintroduction project.

So far the cost of this project has been approximately \$33,000. The State of Vermont provided 60 percent of the financial and personnel support, and the Forest provided the remaining 40 percent. Future plans call for the release of an additional 40 marten, as well as plans to expand release sites to include the nearby Lye Brook Wilderness Area.

Hiawatha National Forest. A lake dredging project designed to improve brook trout habitat was a highlight of the Rapid River Ranger District's fisheries program in 1990. Spring Lake is a two- to three-acre pond, which averaged 2.5 feet in depth before dredging. Springs provided a constant supply of cold water, but the success of brook trout reproducing in the lake was dependent on the amount of water present in any given year. The objective of the project was to deepen the pond so that it would offer a more consistent, self-sustaining brook trout fishery.

Dredging, using a front-end loader and pumps, removed the muck, silt, and cobble that was present on the lake bottom. Following dredging, the average lake depth increased to 3.5 feet; which will help minimize the negative effects of low water years on the brook trout population. In addition, participants spread approximately 150 yards of gravel over the spring upwellings and the feeder stream to improve spawning habitat and to increase natural reproduction. The District also placed five floating log and brush cover structures at various locations in the pond. This "Rise to the Future" project was a cooperative effort between Wildlife Unlimited of Delta County and the Forest Service. Each contributed \$6,000.

Huron-Manistee National Forests. A formal partnership formed in 1987 between six government and private organizations seeks to restore riparian resources in the Pere Marquette River watershed. Approximately 75 miles of stream will be restored over a 5- to 10-year period at an estimated cost of \$1.5 million. Major emphasis is on streambank stabilization to reduce sediment input into the stream. Partners include the Forest Service, the Michigan Department of Natural Resources (DNR), Trout Unlimited (Michigan Council), the Mason Lake Soil Conservation District, the Pere Marquette Watershed Council, and the northwest Michigan Resource Conservation and Development Council.

To date, cooperators have stabilized 57 severe erosion sites out of a total of 190 identified sites. Brown trout, salmon, and steelhead benefited as reduced sand bedload restored spawning and rearing habitat. Partners committed a total of \$585,000 to this "Rise to the Future" project in 1990. The Forest Service contributed \$340,000, to stabilize approximately 8,000 linear feet of eroding streambank on federal lands over a three-year period. Participants completed approximately one third of the work in 1990. Michigan DNR contributed \$200,000 for the stabilization of approximately 4,000 linear feet of eroding banks on adjacent State and private lands. The Mason Lake Soil Conservation District, with an estimated contribution of \$20,000 in the form of labor and materials is working to revegetate and stabilize the upper slopes of the erosion sites. Trout Unlimited, the Pere Marquette Watershed Council, and the Northwest Michigan Resource Conservation and Development Council contributed the remaining \$25,000 in the form of project administration and support.



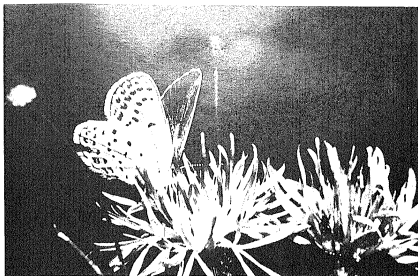
Green Mountain NF: Martens being carried to a spot for release at the White Rocks NRA.

Huron-Manistee National Forests. As part of a partnership with The Nature Conservancy and the Michigan Natural Features Inventory, the Forests completed extensive evaluations for the Karner blue butterfly, a candidate species for federal listing, to determine distribution, population sizes, and habitat needs. This second year of evaluations, part of the "Every Species Counts" initiative, developed recommendations for habitat treatments in 1991. Monitoring habitat improvements will determine the effect of fire on lupine, an important plant for Karner blue butterflies throughout their life cycle. Michigan is believed to contain one of the last remaining viable populations of this species. The Forest Service contributed \$5,126 plus field information for locating nectar sources and cooperators provided \$7,500 in field evaluations, maps, and report preparation.

Mark Twain National Forest. The Mineral Area Chapter of Quail Unlimited and the Potosi/Fredericktown Ranger District completed the final year of a three-year "Answer the Call" project to enhance bobwhite quail habitat on the Forest. This year, each party contributed \$1,000 to fertilize, lime, and seed 22 one-quarter-acre food plots in old farm fields. Cooperators seeded the plots with milo and sunflowers to provide forage and cover for bobwhite quail and other openland species. Since signing the cooperative agreement in 1988, the Forest and the Mineral Area Chapter have developed 38 food plots.

Monongahela National Forest. In partnership with Parsons Elementary School, Parsons, WV, the Cheat Ranger District completed a project to construct and place 17 bluebird nest boxes. The Forest Service contributed \$100 in supplies and materials, while the school contributed the labor of Mrs. Stouts' third grade class. As part of this "Eyes on Wildlife" project, students placed nest boxes in the nursery bottoms surrounding the Cheat Ranger District Office and in the Northeast Experiment Station laboratory in Parsons.

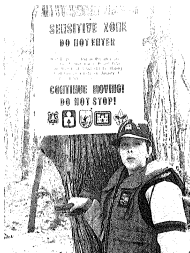
Shawnee National Forest. The Boy Scouts of America, Troop 134, of Eldorado, IL and the Forest joined forces to provide protection for the only bald eagle nest site within the Forest. The scouts provided labor and materials to construct and install signs around the bald eagle nest site located along the Ohio River on the Elizabethtown Ranger District. Both cooperators contributed \$500 to this "Every Species Counts" effort.



Huron-Manistee NF: A Karner blue butterfly.

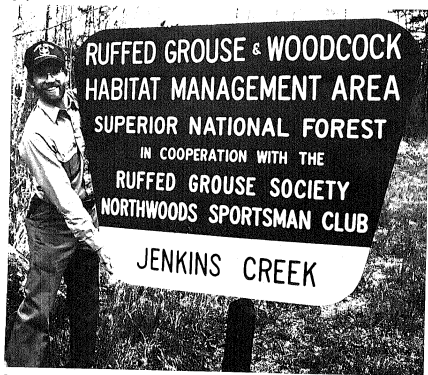


Monongahela NF: The students in Mrs. Stouts' third grade class at Parsons Elementary School proudly display their bluebird nest boxes.



Shawnee NF: A Boy Scout stands under the bald eagle sign erected around the nest site on the Elizabethtown Ranger District.

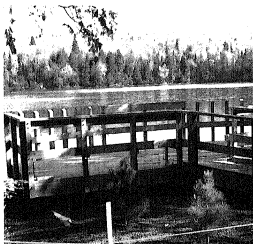
Superior National Forest. The Ruffed Grouse Society, Northwoods, Inc., and the Laurentian Ranger District joined resources to improve ruffed grouse and woodcock habitat on the Forest, as part of a "Dancers in the Forest" project. Harvesting 250 acres of mature aspen in scattered patches averaging 12 acres in size enhanced habitat diversity on the 2,200-acre Jenkins Creek Ruffed Grouse and Woodcock Management Area. Participants established six acres of forest openings using hand tools. They seeded skid trails and log landings with a grass/legume mix to provide additional foraging areas for wildlife. Establishment of a four-mile hiker and hunter walking trail enhanced recreational opportunities in the area. The Ruffed Grouse Society donated a trailhead sign, and the Forest Service developed an interpretive brochure and installed location signs at trail intersections. The Ruffed Grouse Society and Northwoods, Inc., contributed half of the \$7,000 project costs.



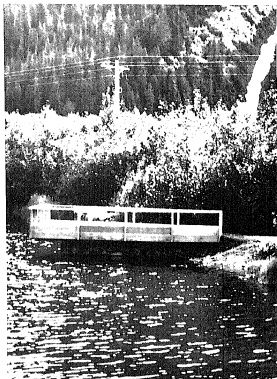
Superior NF: Sign erected at the Jenkins Creek Ruffed Grouse and Woodcock Management Area.

Superior National Forest. An "Eyes on Wildlife" project was designed to improve habitat for white-tailed deer and other species associated with openings on the Superior National Forest. This \$80,000 project is the largest of its kind ever undertaken in northern Minnesota. Cooperators included the North and South Suburban Chapters and the State Habitat Committee for the Minnesota Deer Hunters Association (MDHA), the Minnesota Department of Natural Resources, and the Laurentian and La Croix Ranger Districts. The districts established openings on 440 acres through the use of mechanical and hand methods. Participants planted cedar on 10 acres and protected the cedar with a solar fence. Selective thinning on 37 acres increased oak mast production. This was the first project of its kind for cedar and oak management. Cooperators contributed half the cost of the project.

Superior National Forest. The Gunflint Ranger District formed a successful partnership designed to improve recreational fishing opportunities for physically challenged anglers, including children, the elderly, and people with disabilities. The Hedstrom Lumber Company of Grand Marais and the District teamed together to build a 12 by 214-foot hexagonal-shaped, barrier-free fishing pier on Mink Lake as part of this "Rise to the Future" project. Hedstrom donated \$2,000 worth of materials for the pier construction. The pier will offer children and the physically challenged a comfortable and safe place to fish for the lake's rainbow trout.



Superior NF: A section of the barrier-free fishing pier on Mink Lake on the Gunflint Ranger District.



Chugach NF: A barrier-free fishing platform on the Glacier Ranger District.

Chugach National Forest. An 18-acre pond in the Portage Valley will be excavated over a three- to five-year period to provide gravel to the State of Alaska and to local contractors. This "Rise to the Future" project will provide rearing and over-wintering habitat for trout and salmon species, as well as provide a roadside recreational fishery. The project, adjacent to the Forest Service Begich/Boggs Visitors Center on the Glacier Ranger District, will offer fishing opportunities to thousands of visitors to the Forest annually. Barrier-free access trails and fishing platforms are included in the design of the project. The Alaska Department of Transportation, the Alaska Department of Fish and Game, Conrad Construction, Heinlin Construction, and Sofar Construction all cooperated in this project with a total contribution of \$160,500. Forest Service contribution was \$8,000.

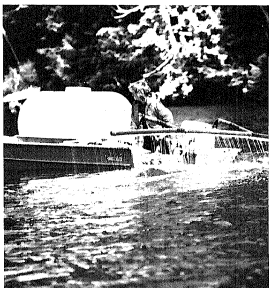
Chugach National Forest. Forest wildlife and fisheries biologists in partnership with local school districts and organizations gave presentations and conducted guided field trips designed to teach environmental and forest resource awareness to students and adults from communities in or adjacent to the Forest. The Seward, Glacier, and Cordova Ranger Districts participated in this project. District biologists developed and presented slide shows, created wildlife displays and organized nature walks for diverse groups ranging from kindergarten classes to gatherings of senior citizens. This project, emphasizing the "Eyes on Wildlife" initiative, provided environmental and resource awareness education to 2,000 students and adults. Partners in this effort were the Kenai Borough District Schools, the Moose Pass, Hope, Seward, Cooper Landing, Homer, Girdwood, Anchorage, and Cordova School Districts. Partners contributed \$6,000 and the Forest Service contributed \$8,000.



Chugach NF: A group of school children participating in a field trip to gain environmental and forest resource awareness.

Tongass National Forest. The Forest Service cooperated with the Alaska Department of Fish and Game on a project to fertilize McDonald Lake. The Alaska Department of Fish and Game contributed \$50,000 and the Forest Service contributed \$41,000 to this "Rise to the Future" project. The McDonald Lake fertilization project was designed to increase production of sockeye salmon by increasing the primary production of the lake with a resulting increase in the growth rate and survival of sockeye salmon fry. The increased growth rate enabled 85 percent of the juvenile salmon to migrate seaward at an age of one year. Without fertilization, McDonald Lake sockeye production would diminish, since growth rates would be slower, mortality higher, and a greater percentage of the juvenile sockeye would migrate seaward at an age of two years or older.

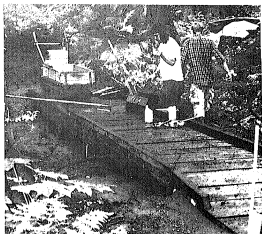
A second objective was to develop a reliable egg source for hatchery production, as well as to provide sockeye salmon juveniles for broodstock development projects in areas having barren or under-utilized habitats. The 1989 contribution to the fisheries resource was 107,000 fish to the commercial harvest, 3,500 to subsistence harvest, and 200 to sport harvest. The 1990 contribution to the fisheries resource is expected to be equivalent to 1989.



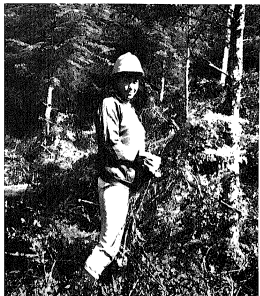
Tongass NF: Fertilization efforts at McDonald Lake.

Tongass National Forest. The Forest modified five fishing holes in Ohmer Creek in 1989 to improve sport fishing opportunities. The project continued in 1990 with the development of a barrier-free access trail along a portion of the creek. Two fishing platforms and interpretive signs will provide persons using this trail and the sport fishing facilities, an opportunity to learn more about the habitat requirements and life histories of salmon and trout species of the Ohmer Creek system. The trail also included benches for people to sit and enjoy the stream and the surrounding forest setting. Partners in this project included Trout Unlimited (Viking Chapter, Petersburg, Alaska), the Boy Scouts of America, the Southeast Alaska Guidance Association, the Alaska Department of Transportation, and many local volunteers. Their total contribution came to \$45,600. The Forest Service contributed \$52,000 toward the completion of this project.

Tongass National Forest. The Southeast Alaska Guidance Association provides support and guidance for disadvantaged and troubled youth. A project on the Wrangell Ranger District designed to create young growth forest canopy gaps for wildlife, provided a wholesome out-of-doors experience for youths in the program. Students cut canopy gaps in regenerating clear-cuts to diversify habitats for wildlife in young growth forest stands. This "Eyes on Wildlife" project simulated natural blow-down patches which allow light to reach the forest floor for growth of forbs. The forbs are an important component of the diet of Sitka black-tailed deer. Biologists are optimistic that the canopy gaps in young growth stands will maintain desirable forage species and other habitat attributes for wildlife. The Forest established a comprehensive monitoring program to evaluate the results of this project. The Southeast Alaska Guidance Association contributed \$10,000 and Forest Service KV funds provided \$54,000.



Tongass NF: Volunteers help construct a barrier-free access trail along Ohmer Creek.



Tongass NF: A youth from the Southeast Alaska Guidance Association helps create young growth forest canopy gaps on the Wrangell Ranger District.

Appendix A

Table 1. Growth of partnership contributions, FY 1986 - 1990.

	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990
Partners	\$1,604,255	2,681,894	4,615,327	9,469,210	12,337,610
Forest Service	\$ 903,695	1,500,000	2,586,223	6,370,736	9,941,035
Total	\$2,507,950	4,181,894	7,201,550	15,839,946	22,278,645

Table 2. History of numbers of partnerships, FY 1986 - 1990.

	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990
R-1 Northern	NA*	NA	36	76	174
R-2 Rocky Mountain	NA	NA	34	73	126
R-3 Southwestern	NA	NA	67	47	194
R-4 Intermountain	NA	NA	50	178	188
R-5 Pacific Southwest	NA	NA	42	100	262
R-6 Pacific Northwest	NA	NA	20	57	181
R-8 Southern	NA	NA	110	154	314
R-9 Eastern	NA	NA	61	147	231
R-10 Alaska	NA	NA	9	35	37
Total	57	196	429	867	1,707

* NA - not available

Table 3. Forest Service contributions by program area, FY 1986 - 1990.

	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990
Wildlife	\$477,695	539,000	902,449	2,293,438	3,291,694
Inland Fish	\$284,700	403,000	542,906	1,092,716	2,215,137
TE&S Species *	\$ 44,200	364,000	576,298	702,392	1,990,684
Salmon & Steelhead	\$ 97,100	174,000	564,580	2,282,190	2,443,520
Total	\$903,695	1,500,000	2,586,223	6,370,736	9,941,035

* TE&S Species - Threatened, Endangered, and Sensitive Species

Table 4. Contributions by partners and Forest Service, FY 1989 - 1990.

	1989		1990	
	Partners	Forest Service	Partners	Forest Service
R-1 Northern	\$ 448,500	420,000	787,000	543,000
R-2 Rocky Mountain	\$ 505,829	219,300	733,660	872,548
R-3 Southwestern	\$ 537,236	435,154	1,908,197	1,224,814
R-4 Intermountain	\$ 973,662	561,870	672,220	633,735
R-5 Pacific Southwest	\$ 2,291,462	535,000	2,914,654	1,451,822
R-6 Pacific Northwest	\$ 290,610	361,800	739,045	605,989
R-8 Southern	\$ 282,891	204,971	1,278,534	946,427
R-9 Eastern	\$ 2,877,910	2,016,301	1,794,900	1,968,500
R-10 Alaska	\$ 1,261,110	1,616,340	1,509,400	1,694,600
Total	\$ 9,469,210	6,370,736	12,337,610	9,941,035

Table 5. Acres of habitat improved in each program area, FY 1990.

	Wildlife	Inland Fish	TE&S Species	Salmon & Steelhead	Total
R-1 Northern	19,227	284	9	10	19,530
R-2 Rocky Mountain	8,986	516	105	-	9,607
R-3 Southwestern	17,721	453	418	-	18,592
R-4 Intermountain	12,498	567	698	18	13,781
R-5 Pacific Southwest	12,296	1,219	171	71	13,757
R-6 Pacific Northwest	354,681	72	0	18	354,771
R-8 Southern	16,763	747	114	-	17,624
R-9 Eastern	6,944	1,137	4,146	183	12,410
R-10 Alaska	150	4	0	6,084	6,238
Total	449,266	4,999	5,661	6,384	466,310

Table 6. Number of structures built in each program area, FY 1990.

	Wildlife	Inland Fish	TE&S Species	Salmon & Steelhead	Total
R-1 Northern	97	690	10	133	930
R-2 Rocky Mountain	266	470	34	-	770
R-3 Southwestern	151	2,985	15	-	3,151
R-4 Intermountain	113	165	119	67	464
R-5 Pacific Southwest	193	525	210	380	1,308
R-6 Pacific Northwest	307	772	1	187	1,267
R-8 Southern	1,038	794	49	-	1,881
R-9 Eastern	1,417	2,180	10	1,547	5,154
R-10 Alaska	0	0	80	26	106
Total	3,582	8,581	528	2,340	15,031

Appendix B - Partners

NORTHERN REGION (R-1)

OR	Bonneville Power Administration,	MT	Kootenai Valley Sportsman Association
MT	Bureau of Land Management, Butte District	ID	Lake Pend Oreille Idaho Club
MT	Bureau of Reclamation	MT	Last Chance Audubon
OR	Department of Fish and Wildlife	MT, NY	Liz Claiborne and Art Ortenberg Foundation
ID	Idaho Department of Fish and Game	ID	Louisiana Pacific, Inc.
ID	Lake Pend Oreille Fisheries Cooperative	MT	Louisiana Pacific, Inc., Deer Lodge
MT	Lewis and Clark County Planning	MT	Montana Audubon Council
MT	Montana Department of Fish, Wildlife and Parks	MT	Montana Bass Federation
MT	Montana Department of State Lands	MT	Montana Logging Association
MT	Montana Natural Heritage Program	MT	Montana Loon Society
DC	National Fish and Wildlife Foundation	MT	Montana Power Company
ND	National Fish and Wildlife Foundation	MT	Montana Riparian Association
ND	North Dakota Game and Fish Department	MT	Montana Sawyer Safety Program
ND	Theodore Roosevelt National Park	MT	Montana Wood Products Association
ID	U.S. Fish and Wildlife Service	MT	Neighbor Youth Corps
Conservation Organizations and Others			
MT	Anaconda Sportsmen	MT	National Wildlife Federation
MT	Architects Design Group	ID	North Idaho Flycasters
MT	Armstrong, Bill	MT	Nixon Rod and Gun Club
MT	Ashley Lake Landowners and Sportsmen	MT	Other volunteer workers
MT	Back Country Horsemen	MT, CA	Patagonia, Inc.
MT	Big Sky Bassers	ID	Peregrine Fund, Inc.
MT	Bitterroot Audubon	ND	Pheasants Forever, Watford City Chapter
CO	B.L. Cooper Inc., Boulder	MT	Pheaps Dodge Mining Company
ID	Bonner Country Sportsmen	MT	Flavall County Fish and Wildlife Association
ID	Bonner-Boundary Birders	MT	Rick Smith Logging
ID	Boy Scouts of America, Shoshone District	MT	Rock Creek Advisory Council
MT	Brand S. Corp, Livingston	MT	Rocky Mountain Elk Foundation
MT	Carvey, Nick	ID	Rocky Mountain Elk Foundation, Lewiston Chapter
MT	Chateau Boy Scouts, Choteau	MT	Ruffalo, Tom
MT	Cinabar Foundation	MT	Safari Club International, Montana Chapter
MT	Clark Fork Bass Anglers	MT	Schmidt, Dave and Laurie
ID	Coeur d'Alene Wildlife Federation	MT	Seelley Lake Bass Club
MT	Columbia Falls Forest Products	ID	Shearer Lumber Company's Elk City Mill
MT	Conifer Logging, Lincoln	ID	Shoshone County Sportsmen
MT	Dahmer, Dutch	MT	Stevens, Marcus
MT	DeShazer, Bob	MT	Stevensville Schools
MT	DREAM	MT	Sun Mountain Logging
ID, ND	Ducks Unlimited	MT	Ten Lakes Snowmobile Club
MT	East Sanders County Sportsmen Club	MT	Tobacco Valley Rod and Gun Club
MT	Echo Lake Bass Club	MT	Triple W, Equipment
ID	Elk City 4-H Club	MT	Trout Unlimited
MT	Eureka Lions Club	MT	Trout Unlimited, Bitterroot Chapter
MT	Eureka Baptist Church	ID	Trout Unlimited, Idaho Panhandle Chapter
MT	Federation of Fly Fishers	ID	University of Idaho
MT	Five Valleys Audubon	ID	University of Idaho, College of Forestry, Range and Wildlife Sciences
MT	Flathead Wildlife	ID	University of Idaho, Department of Wildlife
MT	Forsberg, Jim	MT	University of Montana, School of Forestry
MT	Fortune Home Extension Club	MT	Washington Water Power
WY	Foundation for North American Wild Sheep	NM	Western Foundation for Raptor Conservation (Recently renamed Hawk Watch International)
MT	Friends of the Wild Swan	CA	Wildlands Studies
WV	Furbearer's Unlimited, INC.	MT	World Wide Film Expeditions Inc.
MT	Grassroots for Multiple Use	WY	Yellowstone Park Service Stations, Conoco
MT	Hamilton Westview School		
MT	Hardee's Restaurant		
MT	Holy Cross Lutheran Church		
MT	Hvitzdak, Ron and Barb		
ID	Idaho Natural Heritage Program		
ID	Idaho Power and Light Company		
MT	Intermountain Lumber Company		
MT	Jones Equipment		
MT	Kootenai Fly Fishers		

ROCKY MOUNTAIN REGION (R-2)

WY Bureau of Land Management
 CO Bureau of Reclamation
 SD City of Custer, South Dakota
 CO Colorado Department of Highways
 CO Colorado State Reformatory
 CO Colorado State University
 WY Cooperative Extension Service
 SD Custer County Conservation District
 CO Custer-Divide Soil Conservation Federal District
 SD Custer State Park
 CO Department of Natural Resources,
 Colorado Division of Wildlife
 KS Department of Wildlife and Parks
 WY Game and Fish Department
 NE Game and Parks Commission
 WY Rocky Mountain Forest and Range
 Experiment Station
 CO Sangre De Cristo Resource Federal
 Conservation District
 WY U.S. Fish and Wildlife Service
 WY Wyoming Boys School

Conservation Organizations and Others

CO Audubon Society
 WY Big Horn Mountain Flyfishermen
 CO Blanco River Homeowners
 CO Business and Professional Women of Pueblo
 CO, SD Boy Scouts of America
 NE Chadron State College
 CO Colorado Bird Observatory
 CO Colorado Cattlemen's Association
 CO Colorado Interstate Gas
 NE Doane College
 NE, SD, Ducks Unlimited
 CO Estes Park Public Land Trust
 WY, CO Fish America Foundation
 CO Foundation for North American Wild Sheep
 SD Fountain Valley High School
 KS French Creek Landowners Association
 SD Kansas Herpetological Society
 DC Lead Rod and Gun Club
 SD National Wildlife Federation
 WY National Wild Turkey Federation
 CO Peregrine Fund, Inc.
 KS Permites
 CO Quail Unlimited
 CO Rocky Mountain Bighorn Sheep Society
 CO, WY, KS Rocky Mountain Elk Foundation
 CO Safari International
 CO Sierra Club
 SD Sintegeleska College
 CO Southwest Colorado Water Conservancy
 WY The Nature Conservancy
 DC Trout and Salmon Foundation
 CO, WY Trout Unlimited
 WY Trout Unlimited, Chief Washake
 WY University of Wyoming
 CO Un-named Individuals
 CO Vail Associates
 WY Women in Timber
 WY Wyoming Garden Club
 WY Wyoming Wildlife Federation

SOUTHWESTERN REGION (R-3)

NM Animal and Plant Health Inspection Service
 AZ Arizona Boys Ranch
 NM Bandelier National Monument,
 AZ City of Show Low
 OK Department of Wildlife Conservation
 NM Energy, Minerals and Natural Resources Dept.
 NM Energy, Minerals and Natural Resources
 Department, Forestry Division
 NM Extension Service, Harding County
 AZ Game and Fish Department
 AZ Greenlee County
 NM Kirland Air Force Base
 NM Mesa Soil and Water Conservation District
 AZ Navajo County
 NM New Mexico Game and Fish Department
 NM New Mexico Highway Department
 NM New Mexico State Highway and Transportation
 NM New Mexico State University
 NM Resource Conservation and Development Dist.
 OK Roger Mills County
 NM Soil Conservation Service
 CO State Forest Service
 AZ U.S. Fish and Wildlife Service

Conservation Organizations and Others

AZ 7-Up Ranch
 AZ American Desert Racing Association
 AZ Anglers United
 AZ Apache Bass Club
 AZ Arizona Anglers Club
 AZ Arizona Bass Club
 AZ Arizona Rebar, Inc.
 AZ Arizona State University, Wildlife Club
 AZ Arizona State University, Wildlife Society
 AZ Arizona Wildlife Federation
 AZ Austin, Margaret
 AZ Babbott Ranch
 NM Bear Task Force
 AZ Beymor, Tom
 AZ Block-ite Industries
 AZ, NM Boy Scouts of America
 NM Boy Scouts of America, Bloomfield
 NM Boy Scouts of America, Rio Rancho Troop
 AZ Canyon Bass Association
 AZ Cave Creek Casters
 AZ Chandler Bass Club
 AZ Chandler Rod and Gun Club
 AZ Civil Air Patrol
 AZ Collis, Mark
 AZ Coronado High School Honor Club
 NM Cox, Nancy
 AZ Dalton, Dave and Virginia
 AZ Davis Colors
 AZ Desert Botanical Garden
 AZ Desert Flycasters
 IL Ducks Unlimited
 AZ Duncan Associates
 CO Evergreen Resources
 AZ Fairfield
 TX Falcon Seaboard
 NM Farmington Bird Club
 NM Fluman, Otto
 AZ Forbis, Dana
 AZ Forbis, Kent
 NM Gila Fish and Gun Club
 NM Gila Flyfishers
 AZ Glinaki, Richard L.

NV Davidson, Alice
 UT Depaspe, Duane
 UT Durant, Will
 UT Eagle Claw, Inc.
 UT Elder, Tom
 ID Emmett Kiwanis Club
 ID Environmental Educators of Southeast Idaho
 UT First Security Bank
 NV Forsgren, Allan
 CA, ID,
 NV, WY Foundation for North American Wild Sheep
 ID Friends of the Portneuf
 ID Girl Scouts of America
 UT Gray, Dale
 MO Gredell, Andy
 WY Harsha, Kelly
 UT Hatch, Doug
 UT Hatch, Linda
 ID Henry's Fork Foundation
 UT Herman's Sporting Goods
 OK Hooked On Fishing International
 ID Idaho Fly Fishermen's Association
 ID Idaho Hunters Association
 ID Idaho Natural Heritage Program
 ID Idaho State University
 ID Idaho Steelhead and Salmon Unlimited
 UT IGA Super Center
 ID Island Park Sportsmen's Association
 CA Izaak Walton
 ID Job Training Partnership Act Students
 NV Kezar, Ron
 UT Kids's Fishing Derby - Vernal Jaycee's and
 area businesses
 UT KJQ Radio
 NV Las Vegas Flyfishers
 NV Maestas, Ray, Jr.
 WY Mortanson, Lynelle
 NV Mt. Wheeler Power, Inc.
 ID National Fish and Wildlife Foundation
 UT National Mustang Association
 ID National Wildlife Federation, Twin Falls Chapter
 CA, NV Native Plant Society
 NV Nevada Natural Heritage Foundation
 NV Nevada Wildlife Federation
 UT Ogden Government Employee's Credit Union
 ID Oneida County 4-H Clubs
 UT Osborne, Frank
 NV Patras, Nick
 ID Peregrine Fund, Inc.
 ID, UT Pheasants Forever
 ID Pioneer Mines
 NV Placer U.S. - Bald Mt. Mine
 UT Plano Manufacturing
 ID Pocatello Grazing Association
 ID Portneuf Grazing Association
 UT Rainbow Gardens Gifts
 MT Rocky Mountain College
 ID, MT,
 NV, UT Rocky Mountain Elk Foundation
 NV Rocky Mountain Elk Foundation, Ely Chapter
 WY Rocky Mountain Herbarium
 UT Roosevelt Area Chamber of Commerce
 NV Rosevear, Tom
 NV Safari Club International
 CA Sanders, Andy
 UT Schimann, John

UT Schimann, Linda
 ID School District #25
 CA, NV Sierra Club
 ID Society for Range Management
 UT Sorensen, Early
 UT South Bend
 UT Stewart's Country Market
 CA, NV
 UT, WY The Nature Conservancy
 NV The New White Pine Sportsmen's Club
 WY Thompson, April
 NV Tietm, Arnold
 CA Trout Unlimited
 WY Trout Unlimited, Green River Chapter
 WY Trout Unlimited, Jackson Chapter
 ID Trout Unlimited, Upper Snake River Chapter
 NV Truckee River Flyfishers
 NV U.S. Minerals Exploration
 UT Uinta Mountain Club
 ID University of Idaho
 WY University of Wyoming
 WY Upper Snake River Fly Fishers
 UT Utah Natural Heritage Program
 UT Utah State University
 WY Welch, Lorraine
 UT West, Linda
 ID Whitfield, Michael
 NV Williams, Veronica
 ID Wirth, Willard
 UT Zebco Corporation
 VT Zion First National Bank

PACIFIC SOUTHWEST REGION (R-5)

CA Bureau of Land Management
 CA Bureau of Reclamation
 CA California Conservation Corps
 CA California Department of Corrections
 CA California Tahoe Conservancy
 CA California Youth Authority
 CA Chataqua High School
 CA City of Santa Barbara
 CA Department of Fish and Game
 CA Department of Forestry and Fire Protection
 CA Department of Forestry and Fire Protection,
 Growlersburg Conservation Crew
 CA Department of Transportation
 CA Department of Water Resources
 CA El Dorado County Board of Supervisors
 CA El Dorado County Fish and Game Commission
 CA Georgetown Elementary School
 CA Hayfork Elementary
 CA Humboldt State University
 CA Karuk Tribe of California
 CA Kern County Fish and Game Commission
 CA Kimbark Elementary
 CA Klamath River Basin Restoration Task Force
 CA Los Angeles County Fire Department
 CA Los Angeles County Parks and Recreation
 CA Mammoth School District
 CA McCloud Elementary
 CA National Park Service
 OR Oregon State University

OR Oregon State University
CA Pacific Southwest Forest and Range
Experiment Station
CA Plumas County Fish and Game Commission
CA Riverside County Fish and Game Commission
CA Ruth Lake Community Services District
CA Sacramento County Environmental Planning
CA San Bernardino County Fish and Game Comm.
CA San Bernardino County Museum
CA Santa Barbara County Fish and Game Comm.
CA Shasta County Recreation and Fish and
Game Commission
CA Sierra County Fish and Game Commission
CA Siskiyou County Fish and Game Commission
CA Soil Conservation Service
CA Trinity County Fish and Game Commission
CA Trinity County Fish and Game
Advisory Commission
CA Trinity River Task Force
CA Tulare County Community Services
and Employment Training
CA U.S. Fish and Wildlife Service
CA U.S. Marine Corps
CA Wildlife Conservation Board
CA Willow Creek Community Services District

Conservation Organizations and Others

CA Aguabonita Flyfishers
CA Anderson, Richard
CA American Hiking Society
CA Angerer, Stuart
CA Baskin, Johnathan
CA Bloomfield Ranch
CA Boy Scouts of America
CA Brennan, Kevin
CA California Department of Prison,
Valley View Conservation Camp
CA California Kamboos, Inc.
CA California Native Plant Society
CA Carver Ranch
CA Clark, Lisa
CA Clifton, Gregg
CA Deep Creek Flyfishers
CA El Dorado Rod and Gun Club
CA Evan, Thomas
CA Finner Lake Resort
CA Fish America Foundation
CA Friends of the Eldorado
CA Friends of the Big Bear Valley Preserve
CA Fresno County Sportsmen's Club
CA Fun-on-all-Fours 4 Wheel Drive Club
CA Georgetown Fire Department
CA Georgetown Public Utilities District
CA Golden State Adopt-A-Lake Conservancy
CA Gorken Ranch
CA Green Valley Community Club
CA Greenman, Todd
CA Griffin, Dennis
CA Gricedale Ranch
CA Haglund, Thomas
CA Harwood Lumber Company
CA Heart Bar Land and Cattle Company
CA Heimg, Ronald
CA Hull, George
CA Humboldt Bay Municipal Water District
CA Humboldt State University Foundation
CA Hurst, Amy
CA Isaac Walton League

CA Kaweah Flyfishers
CA Los Angeles Department of Water and Power
CA Lake Harriet Municipal Water District
CA Long Beach Casting Club
CA Los Angeles Zoo
CA Maki, Dennis
CA Mammoth Flyrodders
CA McCoy, Robert
CA McKibbin, Paul
CA Rancho Santa Ana Botanic Garden
CA Mono Lake Committee
CA Mule Deer Foundation
CA National Audubon Society
CA National Wild Turkey Federation
CA Neal, Mallo
CA Nether, Annette
CA Noland, Tom
CA Northern California Indian Development Council
CA Orleans Rod and Gun Club
CA Pacific Coast Federation of Fishermen's
Association
CA Pacific Gas and Electric
CA Pasadena Casting Club
CA Pasadena Teico Hunting and Fishing Club
CA Placer County Water Agency
CA Quail Unlimited, Inc.
CA Raptor Biotics
CA Redwood City Seed Company
CA Rocky Mountain Elk Foundation
CA Sacramento Municipal Utility District
CA San Diego Zoo
CA Santa Cruz Predatory Bird Research Group
CA Schmidt, John
CA Sierra Forest Products
CA Sierra Pacific Flyfishers
CA Smith Ranches
CA Southern California Bass Council
CA Southern California Edison
CA Southern California Gas
CA Spiegel, Linda
CA Stendley, William
CA Stewart, John
CA Student Conservation Association
CA Sylmar Hills Sportsmen's Club
CA Taylor, Dean
CA The Nature Conservancy
CA Thompson, Joe
CA Triner, Debbie
CA Trout Unlimited, South Coast Chapter
CA University of California, Berkeley
CA University of California, Davis
CA University of California, San Luis Obispo
CA University of California, Santa Barbara
CA Valley Climbers Motorcycle Club
CA Ventana Wilderness Sanctuary
CA Walker, Douglas
CA White Mountain Research Station

PACIFIC NORTHWEST REGION (R-6)

ID Boise State University
OR Bureau of Reclamation
OR Department of Agriculture
OR Department of Fish and Wildlife
WA Department of Fisheries
WA Department of Natural Resources
OR Department of Transportation,
Highway Department
WA Department of Wildlife

OR	Lane County Forest Inmate Crew	OR	Natural History Society
OR	Lower Umpqua Chamber of Commerce	OR	Niedermeyer-Martin Co.
WA	Lummi Indian Tribe	OR	Northwest Forestry Association
WA	Mt. Baker-Snoqualmie NF	OR	Northwest Steelheaders
WA	Nooksack Indian Tribe	OR	Northwest Steelheaders, Lincoln City Chapter
WA	Olympic National Park	OR	Oregon Bass and Panfish Club
WA	Pend Oreille County Road Department	OR	Oregon Eagle Foundation
WA	Quinalt Indian Nation	OR	Oregon Hunter's Association
OR	State Department of Forestry	OR	Oregon Natural Heritage Data Base
OR	Timber Lake Job Corps	OR	Oregon Paralyzed Veterans of America
OR	University of Oregon	OR	Oregon STEP Program
OR	U.S. Army Corps of Engineers	CA, OR	Pacific Power
WA	U.S. Fish and Wildlife Service, Ecological Services	WA	Paralyzed Veterans of America, Northwest Chapter
OR	USDA Plant Materials Center	MT	Patagonia
Conservation Organizations and Others			
MN	3M/Scientific Anglers	OR	Payless Drug
CA	Abel Automatics, Inc.	PA	Perin Fishing Tackle Manufacturing Company
OR	American Fisheries Society, Oregon Chapter	OR	Permapost
OR	American Foresters, Blue Mountain Chapter	OR	Portland General Electric
WA	ARA Leisure Services	WA	Rain Forest Resort
OR	Avison Timber Company	OR	Rainbow Trout Farm U-Catch
OR	Bait Shop, The	OR	REI, Inc.
MT	Ban Bailey's Fly Shop	OR	Restoration Task Force
CA	Birdwell	MT, OR,	
OR	Booth's Corner	WA	Rocky Mountain Elk Foundation
OR	Brazier Forest Products of Oregon, Inc.	CO	Selectally West
NE	Cabela's	OR	Smith's War Surplus
OR	Cascade Utilities	OR	Snag Proof
OR	Central Oregon Flyfishers	OR	Southern Oregon Bass Club
OR	Clivus Mulrum, Inc.	OR	Stone's Ski and Sports
OR	Coalition for the Deschutes	OR	Susan Dougherty High Schools
OR	Coast to Coast Hardware	OR	Teeny Nymph Company
OR	Columbia Sportswear	OR, WA	The Nature Conservancy
NY	Cortland Line Company International	OR	Tackle Box, The
OR	D&G Bait	WA	Wilderness Society, The
OR	Deschutes River Mitigation and Enhancement Committee	OR	Tie-One-On Flycasters
OR	Doherty, John	OR	Trout Unlimited, Icicle Valley Chapter
OR	Ducks Unlimited	WA	Trout Unlimited, Upper Columbia Chapter
OR	Estacada Lumber	OR	Umpqua Fisherman's Association
OR	Estacada Pet and Tackle Shop	OR	Vanport Manufacturing
OR	Estacada True Value Hardware	OR	Walker Range Patrol
WA	Federation of Fly Fishers, Northwest Council	MN	Water Gremlin Company
OR	Federation of Flyfishers, Oregon Council	MS	Waterway Experiment Station
OR	Fish America	OR	Yakima Bait Company
OR	Fisherman's Marine Supply, Inc.	OR	Young's Sporting Goods
OR	Forrest Warren Grade Schools	SOUTHERN REGION (R-6)	
OR	Fred Meyer, Inc.	AR	Arkansas Natural Heritage Commission
OR	Gilliland, Bill	AR	City of Ft. Smith
OR	Gray Butte Grazing Association	AL	Department of Conservation and Natural Resources, Division of Game and Fish
NY	Great American Tool Company, Inc.	KY	Department of Fish and Wildlife Resources
OR	Hammond, Paul	VA	Department of Game and Inland Fisheries
WA	Hi Lakers Sport Fishing Club	GA	Department of Natural Resources
NY	Hook and Tackle Company	WV	Department of Natural Resources
AR	Hooked on Fishing International	NC	Department of Transportation
OR	Indian Springs Trout Farm	OK	Department of Wildlife Conservation
MI	Izaak Walton League Riparian	LA	Department of Wildlife and Fisheries
OR	K-Mart Corporation	MS	Department of Wildlife, Fisheries and Parks
OR	Kids Fishing Specialties	AR	Game and Fish Commission
OR	Key Bank of Oregon	FL	Game and Fresh Water Fish Commission
OR	KKGR Radio	AL	Jacksonville State University
OR	Klamath Country Flycasters	LA	Louisiana State University
OR	Luhr Jensen	VA	Museum of Natural History
OR	Magnum Sports	MS	Museum of Natural Science
OR	Maier's Market	GA	Murray County Community Services
OR	National Audubon Society	NC	North Carolina Plant Conservation Program
OR	National Wildlife Federation	TX	Parks and Wildlife Department

KY Powell County Future Farmers of America
 AR Property Owners Association, Hot Springs Village
 AR, FL,
 GA, LA,
 OK, SC Quail Unlimited
 MS Quail Unlimited, Ackerman Chapter
 AL Quail Unlimited, Central Alabama Chapter
 VA Rockingham Bird Club
 TN Robert Markel Construction, Inc.
 NC Robbinsville Contracting
 AR Robison, Dr. Henry
 AL Rock Creek Hunting Club
 KY Rogers, Disne
 KY Rowan County Wildlife Club
 GA Rotary Club of Clayton
 NC Ruffed Grouse Society
 TN Sierra Club
 MS Sierra Club, Mississippi Chapter
 KY Skidmore Land Owners
 SC South Carolina Waterfowl Association
 KY Sproles, Jim
 AL Stallings, Larry
 AR Stone County Bass Club
 VA Stuart Hall High School
 AL Sweetwater Hunting Club
 KY Tabler, Walt
 KY Taylor, L.
 AR, FL The Nature Conservancy
 TN Tennessee Gas Pipeline Company
 TN Tennessee Ornithological Society
 TN Tennessee Valley Sportsman
 TX Texas Natural Heritage Program
 AL Tillery Creek Hunting Club
 MS Tishkill Hunting Club
 KY Trimboli, Todd
 AR, GA
 NC, SC Trout Unlimited
 VA Trout Unlimited, Appalachia Chapter
 TN Trout Unlimited, Bluegrass Chapter
 KY Trout Unlimited, Cherokee Chapter
 TN Trout Unlimited, Massanutten Chapter
 VA Trout Unlimited, New River Valley Chapter
 VA Trout Unlimited, Northern Virginia Chapter
 VA Trout Unlimited, Rapidan Chapter
 VA Trout Unlimited, Skyline Chapter
 FL University of Florida
 KY University of Kentucky
 OK University of Oklahoma
 KY Upper Cumberland Fish and Game Club
 VA Valley Blox
 AL Vandiver, W.D.
 KY Vanover, Chester
 VA Virginia Natural Heritage Program
 AR Waldron High School, Vocational Class
 AR Weyhaeuser Foundation
 MS Wildlife Rehabilitation and Nature
 Preservation Society
 FL, GA,
 MS, NC,
 OK, SC Wild Turkey Federation
 TN, VA Wild Turkey Federation, Alabama Chapter
 AL Wild Turkey Federation, Arkansas Chapter
 AR Wild Turkey Federation, Long Spurs Chapter
 VA Women's Club, Hot Springs Village
 AR Woods and Waters Club
 KY Wyatt, Charlie

EASTERN REGION (R-9)

VT Agency of Natural Resources, Department
 of Fish and Wildlife
 MN Cass County Soil and Water Conservation
 IL Department of Conservation
 IN Department of Natural Resources
 MI Department of Natural Resources
 MN Department of Natural Resources
 OH Department of Natural Resources
 WV Department of Natural Resources
 WI Department of Natural Resources
 WI Great Lakes Indian Fish and Wildlife
 Commission
 IL Illinois Natural History Survey
 MN Lake County, Minnesota
 MN Leech Lake Indian Reservation
 MI Mason Lake Soil Conservation District
 MI Michigan Department of Corrections
 MI Michigan Youth Corps
 IL Morton Arboretum
 WV National Park Service
 MN North Central Forest Experiment Station
 PA Pennsylvania Game Commission
 MI Soil Conservation Service
 MI, PA U.S. Army
 VT U.S. Fish and Wildlife Service
 MN Voyageurs National Park
 WV West Virginia University
 WI Wisconsin Conservation Corps

Conservation Organizations and Others

WI American Fishing Tackle Manufacturers
 Association
 MI Alcona County Snowmobile Association
 MI Alger-Delta Coop. Electric Association
 MI American Hiking Society
 VT Appalachian Trail Conference
 MI Au Sable Steelheaders
 MN Audubon Society, Audubon Center of
 the Northwoods
 IL Audubon Society, Carbondale Chapter
 MI Audubon Society, Fremont Chapter
 MI Audubon Society, Lee Le Blanc Chapter
 MI Audubon Society, Michigan Audubon Society
 WI Audubon Society, Wisconsin Audubon Society
 MI Barton City Snowmobile Club
 MI Barton City Fraternal Order of Eagles
 WI Bass Lake Association
 MI Boy Scouts of America
 WV Boy Scouts of America, Troop 51
 IL Boy Scouts of America, Troop 134
 WI Butternut-Franklin Foundation
 WI Chequamegon Birders
 MN Cliff Ahlgren
 MI Consumers Power Company
 NY Cornell University
 NH Dartmouth College
 MN Deer River High School
 MN Dorothy Molter Memorial Wildlife Fund
 IN Dow Elanco Corporation
 WI Du Pont Grade School
 IN Du Bois County Sportsmen
 IL, MI,
 ND, WI Ducks Unlimited
 MI Eagle Camp Village
 WI Eisenstein Sportsman's Club
 USA Fish America Foundation
 MN Geese Unlimited

WI	Goodman Forest Industries	MA, MI	The Nature Conservancy
MN	Gravelle Estate	VT	Townsend High School
MN	Greater Manistee Flyfishers	VT	Ti County Wildlife Unlimited
VT	Green Mountain Fly Tyers	WV	Trout Unlimited, Allegheny Highlands Chapter
MI	Hamlin Lake Association	VT	Trout Unlimited, Central Vermont Chapter
MN	Hedstrom Lumber Co.	WI	Trout Unlimited, Green Bay Chapter
MN	Isabella Sportsman's Club	WV	Trout Unlimited, Kentucky-Ohio Valley Chapter
WI	Neiland, Jennifer	WI	Trout Unlimited, Northwoods Chapter
MI	Kendall Art College	VT	Trout Unlimited, Manchester Chapter
PA	Kinzua Fish & Wildlife Association	MI	Trout Unlimited, Michigan Council
PA	Klebaka, Robert	MI	Trout Unlimited, Muskegon-White River Chapter
PA	Klebaka, Susan	NH	Trout Unlimited, New Hampshire Chapter
MN	Lane, Bill	WV	Trout Unlimited, P. Pendleton Kennedy Chapter
IN	Lincoln Hills Resource and Conservation Development Committee	MI	Trout Unlimited, Pine River Chapter
WV	Living Lakes, Inc.	MN	Turtle Lake Home Owners' Association
MI	Long Lake Landowners Association	NH	University of New Hampshire
MI	Mark Spenser	MN	University of Minnesota
WI	Mark Wagner Realty	VT	Vermont Youth Conservation Corps
MI	McCormick Wilderness Advisory Committee	WI	Wabeno Sportsmans Club
MI	Michigan Conservation Foundation	WI	Westboro Conservation Club
MI	Michigan Consolidated Gas Company	MI	Whitetails Unlimited, Ontonagon Chapter
MI	Michigan Habitat Foundation	MI	White River Steelheaders
MI	Michigan Technological University	IN	Wild Turkey Federation, Indiana Chapter
MI	Michigan United Conservation Clubs	MI	Wild Turkey Federation, Michigan Chapter
MN	Minnesota Deer Hunters Association	MO	Wild Turkey Federation, Missouri Wild Turkey Federation
MI	Munising Sportsman's Club	OH	Wild Turkey Federation, Ohio Chapter
MN	Natural Resources Research Institute	MO	Wild Turkey Federation, Ozark Mountain Chapter
WI	Neimuth, Neal	MI	Wildlife Unlimited of Delta County
VT	New England Salmon Association	MI	Wildlife Unlimited of Iron County
MN	North and South Highbanks Summer Home Permittees	WI	Wisconsin Waterfowlers
MN	North Central Caribou Corporation		
MN	Northwoods Sportsman	ALASKA REGION (R-10)	
MI	Northeast Michigan Sportsman's Club	AK	City of Cordova High School
MI	Northwest Michigan Resource Conservation and Development Council	AK	Department of Fish and Game
MI	Oscoda Senior High School Conservation Club	AK	Department of Natural Resources
MI	Ottawa Sportsman's Club	AK	Department of Transportation
MI	Ozark Flyfishers	AK	Juneau-Douglas School System
WV	Parsons Elementary School	AK	Ketchikan Gateway Borough
MN	Pennington Resort Association	AK	National Park Service
MI	Pere Marquette River Watershed Council	OR	Pacific Northwest Forest and Range Experiment Station - Forestry Sciences Laboratory
ID	Peregrine Fund, Inc.		- Institute of Northern Forestry
MI	Prior Fund	ID	University of Idaho
IL	Quail Unlimited, Illinois State Chapter	MN	University of Minnesota
MO	Quail Unlimited, Mid-Missouri Chapter	AK	U.S. Coast Guard
MO	Quail Unlimited, Mineral Area Chapter	AK	U.S. Fish and Wildlife Service
IL	Quail Unlimited, Ozark Hills Chapter	AK	U.S. Army
IL	Quail Unlimited, Rend Lake Chapter		
IL	Quail Unlimited, Shawnee Chapter	Conservation Organizations and Others	
MO	Quail Unlimited, Texas County Chapter	AK	Alaska Pulp Corporation
MI	Robinson Lake Association	AK	Boy Scouts of America
CH, MI		AK	Chugach Alaska Corporation
WI	Ruffed Grouse Society	AK	Conrad Construction
MN	Sawbill Outfitters	AK	Douglas Island Pink and Chum, Inc.
IL	Southeast Illinois Community College	IL	Ducks Unlimited
IL	Southern Illinois University	AK	Eyak Corporation
WI	Spectacle Lake Protection and Rehabilitation District	AK	Helin Construction
WI	St. Louis School	AK	Hoanah Youth Task Force
MI	Steelhead Anglers Society	AK	Hope Mining Company
MI	Straits Area Sportsman Club	AK	Kavlico, Inc.
VT	Stratton Corporation	AK	Ketchikan Pulp Corporation
MI	Superior Fish and Game Club	AK	Northeast Regional Aquaculture Assoc.
MN	Telephone Pioneers of America	AK	Trout Unlimited, Juneau Chapter
		AK	Trout Unlimited, Viking Chapter
		AK	Valdez Fisheries Development Association
		AK	Wildier Construction

Appendix C

Figure 1. Partner and Forest Service contributions, FY 1986 - 1990.
Millions of \$

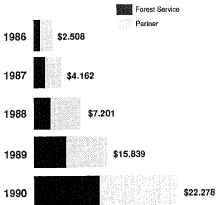


Figure 2. Number of partners, FY 1986 - 1990.

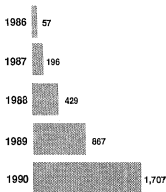


Figure 3. Forest Service contributions by program area, FY 1990.

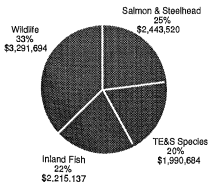


Figure 4. Challenge Cost-Share contributions from partners and Forest Service by region for FY 1990.
Millions of \$

